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The Environmental Assessment and Management (TEAM) Guide: Colorado Supplement

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Abstract: Environmental assessments help determine compliance with current environmental regulations. The U.S. Air Force, U.S. Army, Defense Logistics Agency (DLA), and Corps of Engineers (Civil Works) have adopted environmental compliance programs that identify compliance problems before they are cited as violations by the U.S. Environmental Protection Agency.

Since 1984, the U.S. Army Construction Engineering Research Laboratory, in cooperation with numerous Department of Defense (DOD) components, has developed environmental compliance assessment checklist manuals. The Environmental Assessment and Management (TEAM) Guide was developed for use by all DOD components. Currently there are five participating DOD components: the Air Force, Air National Guard, Army, Civil Works, and DLA. These agencies have agreed to share the development and maintenance of this Guide.

The Guide combines Code of Federal Regulations and management practices into a series of checklists that show legal requirements and the specific operations or items to review. TEAM Guide is supplemented by DOD component-specific manuals detailing DOD component regulations and policies. The Colorado Supplement was developed to be used in conjunction with the TEAM Guide, using existing Colorado state environmental legislation and regulations as well as suggested management practices.

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FOREWORD

This is ERDC/CERL SR-06-3. The report is based on the information available on Enflex Federal and State Regulations of March 2010.

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CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Director of ERDC is Dr. James R. Houston, and the Commander is COL Gary Johnson.

NOTICE

This manual is intended as general guidance for personnel at Federal facilities. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate legal counsel.

ACRONYMS

ACGIH	American Conference of Governmental Industrial Hygienists
AQMA	air quality management area
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
BACT	best available control technology
BOD	biochemical oxygen demand
BTEX	benzene, toluene, ethylbenzene, xylene
CAR	control area responsible party
CAS	Chemical Abstract Service
CEM	continuous emission monitoring
CERCLA	<i>Comprehensive Environmental Response, Compensation, and Liability Act</i>
CFC	chlorofluorocarbons
CWA	<i>Clean Water Act</i>
dB	decibel
dBA	decibels using A-weighting network
dB(C)	decibels using C-weighting network
DEQ	Department of Environmental Quality
ESA	<i>Endangered Species Act</i>
FIFRA	<i>Federal Insecticide, Fungicide, and Rodenticide Act</i>
GVWR	gross vehicle weight rating
HEPA Filter	high efficiency particulate air filter
HWM	hazardous waste management
IARC	International Agency for Research on Cancer
ICRU	International Commission on Radiological Units and Measurements
IUPAC	International Union of Pure and Applied Chemistry
LAER	lowest achievable emission rate
Ldn	day-night airport noise level
Leq	equivalent noise level
LPG	Liquefied Petroleum Gas
MC	medium curing
MCL	maximum contaminant level
MFL	million fibers per liter
MSDS	material safety data sheet
MSW	municipal-type solid waste
MSWLF	municipal solid waste landfill
MWC	municipal waste combustor
NBS	National Bureau of Standards
NEPA	<i>National Environmental Policy Act</i>
NFPA	National Fire Protection Association
NHPA	<i>National Historic Preservation Act</i>
NPDES	National Pollutant Discharge Elimination System
NTNCWS	nontransient noncommunity water system
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PEL	permissible exposure limit
POTW	publicly owned treatment works
PUC	Public Utility Commission of Oregon
RACT	reasonably available control technology
RC	rapid curing
RCRA	<i>Resource Conservation and Recovery Act</i>
RDF	refuse-derived fuel

ACRONYMS

REL	recommended exposure level
RGF	recirculating gravel filter
RVP	Reid vapor pressure
SAE	Society of Automotive Engineers
SARA	<i>Superfund Amendments and Reauthorization Act</i>
SC	slow curing
SDWA	<i>Safe Drinking Water Act</i>
SIC	Standard Industrial Classification
SMCL	secondary maximum contaminant level
SPCC	spill prevention countermeasure and control
SPL	sound pressure level
SWDA	<i>Solid Waste Disposal Act</i>
TLV	threshold limit value
TNTC	too numerous to count
TPH	total petroleum hydrocarbons
TRI	toxic release inventory
TSCA	<i>Toxic Substance Control Act</i>
TSD	treatment, storage, and disposal
TSDF	treatment, storage, and disposal facility
TSP	total suspended particulate
TSS	total suspended solids
TTHM	total trihalomethane
UL	Underwriters Laboratory
UFC	Uniform Fire Code
USEPA	United States Environmental Protection Agency
UST	underground storage tank
VOC	volatile organic compound
VOL	volatile organic liquid
WPCF	Water Pollution Control Facilities

COMMONLY USED ABBREVIATIONS

bbl	barrel	mg	milligram
Btu	British thermal unit	mi	mile
C	Celsius	min	minute
cfs	cubic feet per second	MJ	megajoule
cm	centimeter	mL	milliliter
cm ²	square centimeter	mm	millimeter
dscf	dry standard cubic foot	mo	month
dscm	dry standard cubic meter	mrem	millirem
F	Fahrenheit	MW	megawatt
ft	foot	ng	nanogram
ft ²	square feet	NTU	nephelometric turbidity unit
ft ³	cubic feet	oz	ounce
g	gram	pCi	picoCurie
gal	gallon	ppm	part per million
gJ	gigajoule	ppmv	part per million by volume
gr	grain	ppmw	part per million by weight
h	hour	psi	pound per square inch
ha	hectare	psia	pounds per square inch absolute
hp	horsepower	psig	pounds per square inch gauge
in.	inch	qt	quart
J	Joule	s	second
kg	kilogram	scf	standard cubic foot
km	kilometer	scm	standard cubic meter
kPa	kilopascals	sdcf	standard dry cubic foot
L	liter	sdcm	standard dry cubic meter
lb	pound	TU	turbidity unit
m	meter	V	volt
m ³	cubic meter	yd	yard
MBtu	million British thermal units	yd ²	square yard
meq	milligram equivalent	yr	year
CO	carbon monoxide	NO ₂	nitrogen dioxide
CO ₂	carbon dioxide	NO _x	nitrogen oxides
Hg	mercury	SO ₂	sulfur dioxide

METRIC CONVERSION TABLE

The following conversion table may be used throughout this manual to make approximate conversions between U.S. units and metric units.

1 in.	=	2.54 cm or 25.4 mm
1 ft	=	0.3048 m
1 ft ²	=	0.093 m ²
1 ft ³	=	0.028 m ³
1 psi	=	6.895 kPa
1 lb	=	0.454 kg
1 mi	=	1.61 km
1 gal	=	3.78 L
°F	=	(°C + 17.78) x 1.8
°C	=	0.55 (°F - 32)
1 yd	=	0.9144 m
1 Btu	=	4.184 kJ
1 acre	=	4046.9 m ²
1 acre	=	0.405 hectare

Comment Form

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Please include the following information with your comment:

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SECTION 1

AIR EMISSIONS MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Air Emissions Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Absolute Vapor Pressure* - the pressure-relative to an absolute vacuum, that a confined vapor exerts at a given temperature when in equilibrium with its solid or liquid state (Volume 5, Colorado Code of Regulations, 1001-2, Section I (5 CCR 1001-2, Section I.G)) [Citation Added March 1999; Citation Revised March 2010].
- *Act* - the Colorado *Air Quality Control Act* being Article 7 of Title 25, Colorado Revised Statutes, 1973, as amended (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Actual Emissions* - the rate of emission of a pollutant from an emissions unit (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Aerobic* - a waste treatment method that utilizes air or oxygen (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Agricultural Open Burning* - the open burning of cover vegetation for the purpose of preparing the soil for crop production, weed control, maintenance of water conveyance structures related to agricultural operations, and other agricultural cultivation purposes (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Air Conditioning and Refrigeration Service Facility* - any person or business that performs air conditioning and refrigeration service (5 CCR 1001-19, Section I) [Added March 1999].
- *Air Pollutant* - any fume, smoke, particulate matter (PM), vapor, gas, or combination thereof that is emitted into or otherwise enters the atmosphere, including, but not limited to, any physical, chemical, biological, radioactive substance or material, but does not include water vapor or steam condensate (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Air Pollution* - any concentration of one or more air pollutants in the ambient air that has caused, is causing, or if unabated, may cause injury to human, plant, or animal life, or injury to property, or that unreasonably interferes with the comfortable enjoyment of life or property or with the conduct of business (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Air Pollution Control Authority* - the Division or any person or agency given authority by the Division or a local government unit duly authorized with respect to air pollution control (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Air Pollution Source* - the Division or any person or agency given authority by the Division or a local government unit duly authorized with respect to air pollution control (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *AIR Program* - the Automobile Inspection and Readjustment (AIR) Program (5 CCR 1001-15, Part B, I).

- *Air Quality Related Value* - any value of an area that may be affected by a change in air quality (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Air/Vapor Interface* - the surface defined by the top of the solvent vapor layer within the confines of a vapor degreaser (5 CCR 1001-9, Appendix C) [Citation Added March 1999].
- *Allowable Emissions* - the emissions rate calculated using the maximum rated capacity of the source (unless the source is subject to enforceable permit conditions that limit the operating rate or hours of operation, or both) and the most stringent of the following (5 CCR 1001-2, Section I) [Citation Added March 1999]:
 1. the applicable standards in 40 CFR 60 and 61 as in effect on the effective date of this clause, but not including later amendments
 2. the applicable Colorado Emission Control Regulation
 3. the emissions rate specified as an enforceable permit condition.
- *Alternative Method* - any method of sampling and analysis for an air pollutant that is not a reference or equivalent method, but that has been approved by the Division (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Ambient Air* - that portion of the atmosphere, external to the source, to which the general public has access (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Anaerobic* - a waste treatment method that, in whole or in part, does not utilize air or oxygen (5 CCR 1001-4(B)(II)) [Added April 2000].
- *Anatomical/Pathological Wastes* - human or animal remains consisting of carcasses, tissues, organs, or body parts that may or may not be infectious (5 CCR 1001-8, Part B, Section V(B)) [Citation Added March 1999].
- *Area Classification* - the Commission has classified the entire state into attainment, nonattainment, or unclassifiable areas; attainment or nonattainment with National Air Quality Standards or unclassifiable where a lack of air quality data exists (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Area Classifications* - for sources requiring air pollutant emission notices, see Appendix 1-5.
- *Asphalt or Asphalt Cement* - the dark-brown to black cementitious materials of which the main constituents are bitumens that occur naturally or as a residue of petroleum refining (5 CCR 1001-9, Section XI(A)) [Citation Added March 1999].
- *Asphalt Concrete* - a waterproof and durable paving material composed of dried aggregate that is evenly coated with hot asphalt cement (5 CCR 1001-9, Section XI(A)) [Citation Added March 1999].
- *Asphalt Paving Material* - a petroleum based asphaltic compound used in the preparation of asphalt concrete for application to roads, highways, and streets (5 CCR 1001-2, Section I) [Citation Added March 1999] (5 CCR 1001-9, Section XI(A)) [Citation Added March 1999].
- *Atmosphere* - the surrounding or outside air, i.e., external to buildings (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Attainment Area* - any area within Colorado designated by the Commission in which the ambient air concentrations of any designated pollutants are less than that specified in the National Ambient Air Quality Standards (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Baseline Area* - any intrastate area (and every part thereof) designated as attainment or unclassifiable under Section 107 (d) (1) (D) or (E) of the Federal *Clean Air Act* (CAA) in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact

equal to or greater than 1 microgram/m² (annual average) of the pollutant for which the minor source baseline date is established (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Baseline Concentration* - the ambient concentration level that exists in the baseline area at the time of the applicable minor source baseline date (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Best Available Control Technology* - an emission limitation based on the maximum degree of reduction of each air pollutant subject to regulation under the Federal Clean Air Act that would be emitted from any proposed major stationary source or major modification that the Division or the Commission, on a case-by-case basis, taking into account the duration of the source or modification and energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combustion techniques for control of such air pollutant (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Best Available Retrofit Technology (BART)* - an emission limitation based on the degree of reduction achievable through the application of the best system of continuous emission reduction for each pollutant that is emitted by an existing stationary facility. The emission limitation must be established, on a case-by-case basis, taking into consideration the technology available, the costs of compliance, the energy and non-air quality environmental impacts of compliance, any pollution control equipment in use or in existence at the source or unit, the remaining useful life of the source or unit, and the degree of improvement in visibility which may reasonably be anticipated to result from the use of such technology (5 CCR 1001-5, Part F, Section II) [Citation Added March 1999; Revised March 2010].
- *Biomedical Waste* - waste that includes anatomical/pathological wastes, infectious waste, chemotherapeutic wastes and other wastes generated in health care facilities and medical laboratories that require special handling (5 CCR 1001-8, Part B, Section V(B)) [Citation Added March 1999].
- *Boiler* - a domestic solid fuel burning appliance used primarily for heating space where the appliance is located, by the distribution through pipes of a gas or fluid heated in the appliance (5 CCR 1001-6, Section I) [Citation Added March 1999].
- *Broadcast Burn* - broadcast burn is the controlled application of fire to wildland fuels in their natural or modified state over a predetermined area. Broadcast burns do not include the burning of wildland fuels that have been concentrated in piles by manual or mechanical methods (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Burn Down Time* - that period of time not to exceed 3 h following the declaration of a high pollution day required for the cessation of combustion within any wood burning stove or fireplace pursuant to Colorado Air Quality Control Commission Regulation (CAQCCR) Regulation 4 (5 CCR 1001-6, Section I) [Citation Added March 1999].
- *Capable of Housing* - the combined maximum capacities of the housing units that are included in the housed commercial swine feeding operation. Unless the owner of the housed commercial swine feeding operation provides information about the specific operation to the Division which demonstrates that an alternative capacity calculation is appropriate for that housed commercial swine feeding operation, operations will be presumed capable of housing eight hundred thousand (800,000) pounds or more of live animal weight if they have the capacity to house:
 1. 11,500 weaning swine (70 pounds or less);
 2. 3,020 swine (70 pounds up to finish weight);
 3. 2,000 breeding sows and/or boars; and where more than one of the above-listed categories of swine of varying sizes are present, housed commercial swine feeding operations will be deemed capable of housing eight hundred thousand (800,000) pounds or more of live animal weight if, by dividing the capacity for the number of each type of swine by the respective limit from Sections II.E.1., II.E.2., and/or

II.E.3., Part B, of this Regulation No. 2, above, the sum of the resulting numbers is one (1) or greater (5 CCR 1001-4(B)(II)) [Added April 2000].

- *Capacity Factor* - the ratio of average load to the capacity rating of the machine or equipment for the specified period of time (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Capture System* - the equipment, including hoods, ducts, fans, dampers, etc., used to capture or transport air pollutants (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Capture System Efficiency (Vapor Gathering System Efficiency)* - the percent by weight of volatile organic compounds (VOCs) emitted by an operation subject to this regulation that is captured by the capture system and set to the control device (5 CCR 1001-9, Section II) [Citation Added March 1999].
- *Carbon Adsorption System* - a device containing adsorbent material, an inlet and outlet for exhaust gases and a system to regenerate the saturated adsorbent (5 CCR 1001-9, Section II) [Citation Added March 1999].
- *Cell Room* - a structure housing one or more mercury electrolytic chlor-alkali cells (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Certification of Emissions Control (CEC)* - the official certificate issued by a private (non-government) fleet opacity inspector to a fleet vehicle, which has been inspected and tested according to the procedures in Part A, Section IV, and is in compliance with the opacity standards (5 CCR 1001-15, Part A, I) [Added May 1998].
- *Chemotherapeutic Waste* - all wastes resulting from the production or use of antineoplastic agents used for the purpose of stopping or reversing the growth of malignant cells (5 CCR 1001-8, Part B, Section V(B)) [Citation Added March 1999].
- *Class I Area and Mandatory Federal Class I Area* - class I area is an area listed in Regulation No. 3, Part B, section V.A (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Closed-vent System* - a system that is not open to atmosphere and that is composed of piping, connections, and, if necessary, flow-inducing devices that transport gas or vapor from a piece or pieces of equipment to a control device (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Coal* - all solid fossil fuels classified as anthracite, bituminous, subbituminous, or lignite by American Society for Testing and Materials Designation D-388-66 (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Coal Storage System* - any facility used to store coal except for open storage areas (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Cold Cleaner* - a container of nonaqueous liquid solvent held below its boiling point that is designed, used, or intended for cleaning solid objects in a batch-loaded process (5 CCR 1001-9, Section X(A)(2)) [Citation Added March 1999].
- *Commenced Construction* - when the owner or operator has obtained all necessary preconstruction approvals or permits required by Federal, state, or local air pollution and air quality laws and regulations and has either (5 CCR 1001-2, Section I) [Citation Added March 1999]:
 1. begun, or caused to begin, a continuous program of physical onsite construction of the source, or
 2. entered into binding agreements or contractual obligation that cannot be cancelled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.
- *Commencement of Operation* - a new source commences operation when it first conducts the activity for which it was designed or permitted (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Commission* - the Colorado Air Quality Control Commission (5 CCR 1001-15, Part A, I) (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Complete* - in reference to an application for a permit, an application that contains all the information necessary for processing the application (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Compliance Plan* - a written plan of action completed by applicable diesel vehicle fleets conforming with the requirements of this regulation (5 CCR 1001-15, Part A, I) [Added May 1998].
- *Condenser* - any heat transfer device used to liquefy vapors by removing their latent heats of vaporization (5 CCR 1001-9, Section II) [Citation Added March 1999].
- *Construction* - the fabrication, erection, installation, or modification of an air pollution source (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Continuous Monitoring System* - the total equipment required under the emission monitoring subsections of the Colorado air regulations (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Control Device (Mobile)* - the air pollution control equipment used to remove air pollutants generated by a mobile source. (5 CCR 1001-2, Section I) [Citation Added March 1999]
- *Control Device (Stationary)* - air pollution control equipment used to remove air pollutants generated by stationary sources (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Control Device (VOCs)* - a carbon absorber, refrigeration system, condenser, flare, firebox, or other device that will reduce the concentration of VOCs in a gas stream by adsorption, combustion, condensation, or other means of removal (5 CCR 1001-9, Section II) [Citation Added March 1999].
- *Control Device Efficiency (VOCs)* - the percent removal by weight of VOCs by a control device (5 CCR 1001-9, Section II) [Citation Added March 1999].
- *Conveyorized Degreaser* - an apparatus that performs degreasing or other cleaning functions through the use of nonaqueous liquid solvent and/or solvent vapors within a container, and which has a conveyor mechanism allowing continuous loading of items conveyed into an out of the solvent (5 CCR 1001-9, Section X(A)(2)).
- *Cover* - a man-made, man-applied, or man-operated device, technology, or material that encompasses the entire surface area of a process wastewater vessel or waste impoundment so as to capture, recover, incinerate or otherwise manage odorous gases to minimize, to the greatest extent practicable, the emissions of such gases into the atmosphere (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Crematory Incinerator* - any incinerator designed and used solely for the burning of anatomical pathological waste, a crematory incinerator may also burn incidental items normally cremated as part of the funeral process (5 CCR 1001-8, Part B, Section V(B)) [Citation Added March 1999].
- *Cutback Asphalt* or *Cutback Asphalt Cement* - any asphalt that has been liquefied by blending with a VOC, such as a petroleum solvent dilutant or, in the case of some slow cure asphalts (road oils), that has been produced directly from the distillation of petroleum (5 CCR 1001-9, Section XI(A)) [Citation Added March 1999].
- *Cyclonic Flow* - a spiraling movement of exhaust gases within a duct or stack (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Day* - a single 24-h period from midnight to midnight (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Denatured Ethanol* - a mixture of pure anhydrous ethanol, which has been denatured by the addition of no more than 5.0 percent by volume gasoline or other denaturant (5 CCR 1001-16, Section I) [Added May 1998].
- *Department* - the Colorado Department of Health (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Design Capacity* - the maximum waste feed rate that the incinerator is designed to combust completely considering the rates of heat releases it can accommodate from the destruction of combustible material contained in the waste (5 CCR 1001-8, Part B, Section V(B)) [Citation Added March 1999].
- *Diesel Fleet Self-Certification Program* - the Opacity Inspection Program for diesel powered fleet vehicles (5 CCR 1001-15, Part A, I).
- *Diesel Opacity Inspection* - an inspection of a diesel powered vehicle performed by a licensed inspector, employed by a licensed station (5 CCR 1001-15, Part B, I).
- *Diesel Opacity Inspection Program* - the opacity inspection program for diesel powered vehicles (5 CCR 1001-15, Part B, I).
- *Diesel Powered Motor Vehicle* or *Diesel Vehicle* - as applicable to opacity inspections, only a motor vehicle with four wheels or more on the ground, powered by an internal combustion, compression ignition, diesel fueled engine; also, any motor vehicle having a personal property classification of A, B, or C (5 CCR 1001-15, Part A, I).
- *Durability Index* - the percent loss of weight as determined using American Society for Testing Materials *Standard Test Method for Resistance to Degradation of Small-size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine* (5 CCR 1001-18).
- *Dust Handling Equipment* - any equipment used to transport, convey, or otherwise handle PM that has been collected by an air pollution control device (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Emission* - the discharge or release into the atmosphere (ambient air) of one or more air pollutants (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Emission Control Regulation* - any standard promulgated by regulation that is applicable to all air pollutant sources within a specified area and that prohibits or establishes permissible limits for specific types of emissions in such areas; also, any regulation that by its terms is applicable to a specified type of facility, process, or activity for the purpose of controlling the extent, degree, or nature of pollutants emitted from such type of facility, process, or activity; also, any regulation adopted for the purpose of minimizing or preventing the emission of any air pollutant in potentially dangerous quantities (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Emission Standard* - same as standard performance (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Emissions Control Systems* - those parts, assemblies or systems originally installed by the manufacturer in or on a vehicle for the specific purpose of reducing emissions (5 CCR 1001-15, Part B, I).
- *Emissions Unit* - any part of a stationary source that emits or has the potential to emit any pollutant regulated under the *Colorado Air Quality Control Act* or the Federal CAA (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Empty Weight (E.W., Curb Weight, Unloaded Weight)* - the weight of the vehicle with maximum capacity of all fluids necessary for operation of the vehicle, but minus the driver, passengers, and payload (5 CCR 1001-15, Part A, I).

- *Emulsified Asphalt* - asphalt emulsions produced by combining asphalt and water with emulsifying agent. Emulsified asphalt or any other coating or sealant that contains more than 5 percent of oil distillate is included in this definition (5 CCR 1001-9, Section XI(A)) [Citation Added March 1999].
- *Excavation* - the removal of surface material, that may or may not be replaced, for the purpose of constructing or installing a structure or piece of equipment (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Excess Emission* - Emissions of an air pollutant in excess of a performance standard promulgated by the Commission (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Existing Source* - any housed commercial swine feeding operation that has commenced construction prior to or on March 30, 1999 (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Existing Source* - an air pollutant source that has been constructed, is in operation, or has received an initial approval of an emission permit prior to the effective date of applicable requirements (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Existing Stationary Facility* - any of the stationary sources of air pollutants defined in Sections I.B.19., I.B.22. through I.B.25., I.B.34., and I.B.41. of Part A, Section I.A.1.(c) of Part C, and Section II.A.24. of Part D of this regulation, including any reconstructed source, that was not in operation prior to August 7, 1962, and had commenced construction on or before August 7, 1977, and has the potential to emit two hundred and fifty tons per year or more of any air pollutant. In determining potential to emit, fugitive emissions, to the extent quantifiable shall be counted (5 CCR 1001-5, Part D, Section XIV(C)) [Citation Added March 1999; Revised March 2010].
- *Facility* -
 1. all operations and equipment and buildings within a single property or contiguous properties having common ownership
 2. any structure or building at a site (5 CCR 1001-19, Section I) [Added March 1999].
- *Federal Act* - the Federal CAA (42 U.S. Code 7401 *et. seq.*) as amended 7 August 1977 (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Federal Land Manager* - with respect to any lands in the United States, the Secretary of the Department with authority over such lands (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Fleet* - diesel vehicle fleet consisting of 9 or more diesel vehicles having empty weight of greater than 7500 lb, registered or required to be registered, or operated from a facility within the AIR Program area (5 CCR 1001-15, Part A, I).
- *Flexographic Printing* - application of words, designs, and pictures to a substrate by means of a roll printing technique in which the pattern to be applied is raised above the printing roll and the image carrier is made of rubber or other elastometric materials (5 CCR 1001-9, Section XIII(A)) [Citation Added March 1999; Revised March 2009; Citation Revised March 2010].
- *Fossil Fuel* - natural gas, petroleum, coal, and any form of solid, liquid, or gaseous fuel derived from such materials (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Fossil Fuel and/or Wood Residue Fired Steam Generating Unit* - a furnace or boiler burning a fossil fuel and/or wood residue and producing steam by heat transfer (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Freeboard* - for vapor degreasers, the vertical distance from the top of the vapor zone (as established by normal operation within the specifications of the degreaser manufacturer) to the top of the degreaser; for cold cleaners, the vertical distance from the surface of the solvent liquid to the top of the degreaser; for instances in which all

sides are not even, the vertical distance to the top of the lowest side is used to make the determination of freeboard (5 CCR 1001-9, Section X(A)(2)) [Citation Added March 1999].

- *Freeboard Ratio* - the ratio of the freeboard to the width of the solvent surface (5 CCR 1001-9, Section X(A)(2)) [Citation Added March 1999].
- *Fuel Burning Equipment* - any furnace, boiler, or other equipment and appurtenances thereto, burning fuel solely for the purpose of producing heat (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Fugitive Dust* - soil or other airborne PM (excluding particulates produced directly during combustion) resulting from natural forces or from surface use or disturbance, including, but not limited to, all dust from construction, unpaved roads, exploration, or other similar activities in which earth is either moved, stored, transported, or redistributed (5 CCR 1001-5, Part A, Section I) [Citation Added March 1999].
- *Fugitive Emissions* - emissions that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Fuel Treatment* - manipulation, including combustion, or removal of wildland fuels to reduce the likelihood of ignition and/or to lessen potential damage and resistance to control of wildfire (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Full Development* - all roadways targeted for treatment during a snow/ice event are sanded (5 CCR 1001-18, Section 1(B)) [Citation Added March 1999].
- *Furnace* - a domestic solid fuel burning appliance that is designed to be located outside of ordinary living areas and is used for heating spaces other than the space where the appliance is located by the distribution through ducts of air heated in the appliance (5 CCR 1001-6, Section I) [Citation Added March 1999].
- *Grading* - the movement of soil for the purpose of establishing equivalent grade and drainage (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Haul Roads* - roads that are used for commercial, industrial, or governmental hauling of materials and that the general public does not have a right to use (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Hazardous Air Pollutant* - an air pollutant to which no National Ambient Air Quality Standard is applicable and that causes or contributes to air pollution which may reasonably be anticipated to result in an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or injury (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Heavy Duty Diesel Vehicle* - as applicable to the Diesel Opacity Inspection Program, diesel vehicles weighing more than 7500 lb, empty weight (5 CCR 1001-15, Part B, I).
- *High Degree of Angularity* - grains that exhibit sharply intersecting, planar faces over entire surfaces (5 CCR 1001-18).
- *High Terrain* - any area having an elevation of 900 ft or more above the base of the stack of the source (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Highly Volatile Organic Compound* - a volatile organic compound or mixture of such compounds with a vapor pressure in excess of 570 torr (11 psia) at 20 °C (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Hourly Period* - any 60-min period (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Housed Commercial Swine Feeding Operation* - a housed swine feeding operation that is capable of housing eight hundred thousand (800,000) pounds or more of live animal weight of swine at any one time or is deemed a commercial operation under local zoning or land use regulations (5 CCR 1001-4, PartB,II) [Added April 2000; Citation Revised March 2010].
Two or more housed swine confined feeding operations shall be considered to comprise a single housed commercial swine feeding operation if they are both:
 1. under common or affiliated ownership or management, and
 2.
 - a. are adjacent to or utilize a common area or system for manure disposal; or
 - b. are integrated in any way; or
 - c. are located or discharge within the same watershed or into watersheds that are hydrologically connected; or
 - d. are located on or discharge onto land overlying the same ground water aquifer.
- *Housed Swine Feeding Operation* - the practice of raising swine in buildings, or other enclosed structures wherein swine of any size are fed for forty five (45) days or longer in any twelve (12) mo period, and crop or forage growth or production is not sustained in the area of confinement (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Hydrocarbon* - an organic compound consisting only of carbon and hydrogen (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Hydrogen Gas Stream* - a hydrogen stream formed in the chlor-alkali denuder. (5 CCR 1001-2, Section I) [Citation Added March 1999]
- *Incinerator* - any equipment, device, or contrivance used for the destruction of solids, liquids, or gaseous wastes by burning, other than devices commonly called wigwam waste burners used exclusively to burn wood wastes and incinerating toilet waste. Excludes devices commonly called Air Curtain Destructors used exclusively to burn 100 percent wood waste, clean lumber, or yard waste generated as a result of projects to reduce the risk of wildfire and is not operated at a commercial or industrial facility. Any Air Curtin desctructor subject to 40 CFR Part 60 incinerator requirements is considered an incinerator (5 CCR 1001-2, Section I) [Citation Added March 1999; Revised March 2005].
- *Independent Laboratory* - a facility capable of performing the specified tests in a competent, professional, and unbiased manner with no financial, family, or personal connection to the supplier or user of street sanding materials (5 CCR 1001-18).
- *Indian Governing Body* - the body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Indian Reservation* - any Federally recognized reservation established by Treaty, Agreement, Executive Order, or Act of Congress (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Indirect Source* - a facility, building, structure, or installation, or any combination thereof, excluding dwellings, that can reasonably be expected to cause or induce substantial mobile source activity that results in emissions of air pollutants that might reasonably be expected to interfere with the attainment and maintenance of National Ambient Air Standards (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Infectious Waste* - the definition of infectious waste contained in 25-15-402 C.R.S (5 CCR 1001-8, Part B, Section V(B)) [Citation Added March 1999].
- *Innovative Control Technology* - any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than

any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or nonair-quality environmental impacts (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Integrated in Any Way* - separate operations that are related in a manner that creates a reasonable potential for the operations to result in a measurable cumulative impact on water quality or air quality at any one location (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Intermittent Sources* - those stationary sources of air pollution that do not operate on a continuous basis for a period of time sufficient to allow for opacity observations in accordance with USEPA Method 9 (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Land Application* - any process wastewater or manure being applied directly to the land for land disposal, land treatment, or irrigation and does not include the discharge to surface waters or loading of process wastewater vessels or waste impoundments even if such waters are subsequently diverted and applied to the land (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Land Manager* - any federal, state, local or private person or entity that administers, directs, oversees or controls the use of public or private land, including the application of fire to the land (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Light Duty Diesel Vehicle* - as applicable to the Diesel Opacity Inspection Program, diesel vehicles weighing 7500 lb or less, empty weight (5 CCR 1001-15, Part B, I).
- *Lowest Achievable Emission Rate* - the most stringent emission limitation that is achieved in practice or can reasonably be expected to occur in practice by such class or category of source, taking into account the pollutant that must be controlled (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Lead* - elemental lead, lead-containing alloys, and compounds of lead (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Low Terrain* - any area other than high terrain (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Machine Shop* - a facility performing cutting, grinding, turning, honing, milling, deburring, lapping, electro-chemical machining, etching, or other similar operations (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Major Modification* - any physical change in the method of operation of, or addition to a major stationary source that would result in a significant net emissions increase of any air pollutant subject to regulation under the Federal CAA or the *Colorado Air Quality Control Act* (5 CCR 1001-5, Part A, Section I) [Citation Added March 1999].
- *Major Source Baseline Date* - (5 CCR 1001-2, Section I) [Citation Added March 1999]:
 1. in the case of PM and SO₂, 6 January 1975;
 2. in the case of NO₂, 8 February 1988.
- *Malfunction* - any sudden and unavoidable failure of air pollution control equipment or process equipment or unintended failure of a process to operate in a normal or usual manner. Failures that are primarily caused by poor maintenance, careless operation, or any other preventable upset condition, or preventable equipment breakdown is not considered a malfunction (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Manure* - feces, urine, litter, bedding, or feed waste from housed commercial swine feeding operations (5 CCR 1001-4 (B)(II)) [Added April 2000].

- *Maximum Allowable Oxygenate Blending Period* - the period of time in which oxygenates must be blended into gasoline at their maximum permissible levels (5 CCR 1001-16, Section I) [Added May 1998].
- *Mercury* - the element mercury in the form of vapor, liquid, and particulates (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Minor Source Baseline Date* - the earliest date after the trigger date on which a major stationary source or a major modification subject to the requirements of Regulation No. 3, Section IV.D.3 or 40 CFR 52.21 submits a complete application under the relevant regulations. The trigger date is (5 CCR 1001-2, Section I) [Citation Added March 1999]:
 1. in the case of PM and SO₂, 7 August 1977;
 2. in the case of NO₂, 8 February 1988.
- *Mobile Source* - motor vehicles and other sources of air pollution that emit pollutants while moving and that are capable of and commonly do not remain at one site (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Modification* - any physical change in, or change in the method of operation of, a stationary source that increases the emission rate of any pollutant for which a Federal or state emission standard has been promulgated or that results in the emission of any such pollutant previously not emitted (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Monitoring* - monitoring includes all methods to observe and record smoke from prescribed fire, including tracking of smoke through visual observation (5 CCR 1001-11, Section, II) [Added April 2003; Citation Revised March 2010].
- *Monitoring System* - the complete set of equipment required under these regulations that is used to measure and record, if so required, those parameters specified (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Motor Vehicle* - any vehicle with four or more wheels that is operated on the ground, self-propelled with gasoline as a fuel, and designated and manufactured primarily for the transportation of not more than 10 people; any truck having a gross vehicle weight of 8500 lb or less (manufacturer rated) and for which registration in Colorado is required for operation on public roads and highways (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Motor Vehicle Exhaust Gas Analyzer* - any instrument approved by the Division that is used to measure the concentrations of CO and hydrocarbons in motor vehicle exhaust (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Net Emissions Increase* - the amount by which the sum of the following exceeds zero (5 CCR 1001-2, Section I) [Citation Added March 1999]:
 1. any increase in actual emissions from a particular physical change or change in the method of operation at a stationary source, and
 2. any other increases and decreases in actual emissions at the source that are contemporaneous with the particular change and are otherwise creditable.
- *New Source* - any housed commercial swine feeding operation that has not commenced construction prior to or on March 30, 1999 (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *New Source* - a stationary air pollution source, other than an existing source; or any source that resumes operation after being inactive for more than 1 yr after having been shut down for the purpose of eliminating emissions that violated any applicable emission control regulation or regulation for the control of hazardous pollutants (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Nonattainment Area* - an area within Colorado designated by the Commission and designated by the USEPA under 40 CFR 81.306 in which ambient air concentrations of any designated pollutant exceed the NAAQS for that pollutant (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Nonconveyorized Vapor Degreaser* - an apparatus that uses nonaqueous solvent and/or solvent vapors within a container to degrease or otherwise clean solid objects in a batch-loaded process (5 CCR 1001-9, Section X(A)(2)) [Citation Added March 1999].
- *Opacity* - the degree to which an air pollutant obscures the view of an observer, expressed in percentage of obscuration or the degree (expressed in percent) to which transmittance of light is reduced by the air pollutant (5 CCR 1001-15, Part A, I).
- *Open Burning* - burning of rubbish, wastepaper, wood, vegetative material or any other flammable material on any open premises, or on any public street, alley, or other land adjacent to such premises (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Open Animal Feeding Operation* - pens or similar confinement areas with dirt, concrete, or other paved or hard surfaces wherein swine are substantially or entirely exposed to the outside environment and are located at a housed commercial swine feeding operation. For the purposes of Part B of this Regulation No. 2, the term open animal feeding operation is synonymous with the terms yard, pasture lot, dirt lot, and dry lot, for swine, as these terms are commonly used in the agricultural industry (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Open Burning* - burning any material or substance in the ambient air or in a receptacle, other than a properly designed furnace such as an incinerator, or other equipment connected to a stack or chimney. Cutting and welding torches are excepted (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Oxygenated Gasolines* - gasoline's blended with an oxygenate. Common oxygenates include ethers such as MTBE, ETBE, TAME, and TAE, and alcohols such as methanol, ethanol, and TBA (5 CCR 1001-16, Section I).
- *Overlotting* - earth moving used in land development prior to the construction of structures (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Packaging Rotogravure Printing* - rotogravure printing upon paper, paperboard, metal foil, plastic film, and other substrates, that are, in subsequent operations, formed into packaging products and labels for articles (5 CCR 1001-9, Section XIII(A)) [Citation Added March 1999; Revised March 2009].
- *Penetrating Prime Coat* - an application of low-viscosity liquid asphalt to an absorbent surface in order to prepare it for overlaying with a layer or layers of asphalt cement or asphalt emulsion and mineral aggregate paving materials (5 CCR 1001-9).
- *Percent Fines* - the percent material passing a #100 sieve as determined by the American Society for Testing Materials (5 CCR 1001-18).
- *Petroleum* - the crude oil removed from the earth and the oils derived from tar sands, shale, and coal (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Petroleum Distillate* - a volatile organic compound or a mixture including VOCs obtained from a petroleum by a process of vaporization and condensation (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Phase III Certified Wood Stove* - a wood stove that has been tested, certified, and labeled for emission performance in accordance with criteria and procedures specified in 40 CFR 60 AAA and meets the emission standards set forth in Subsection 60.532(b) (1) or (2) (5 CCR 1001-6, Section I) [Citation Added March 1999].

- *Pile Burning* - burning of vegetative material that has been concentrated by manual or mechanical methods (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Planning Document* - document that summarizes the use of prescribed fire as a grassland or forest management tool and the associated discharge or release of air pollution (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Planned Ignition Fire* - prescribed fire ignited by a specific man-made action intended for the purpose of using the fire for grassland or forest management (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *PM₁₀* - PM with an aerodynamic diameter less than or equal to a nominal 10 micrometers as measured by a USEPA approved reference method (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *PM₁₀ Emissions* - finely divided solid or liquid material, with an aerodynamic diameter less than or equal to a nominal 10 micrometers emitted to the ambient air (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Portable Source* - a source that can be moved from site to site. A source is not considered portable if it remains at a site for more than 2 yr (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Potential to Emit* - the maximum capacity of a stationary source to emit a pollutant under its physical and operational design (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Prescribed Fire* - fire that is intentionally used for grassland or forest management, including vegetative, habitat or fuel management, regardless of whether the fire is ignited by natural or human means. Prescribed fire does not include open burning in the course of agricultural operations and does not include open burning for the purpose of maintaining water conveyance structures (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Prescribed Fire Plan, Wildland Fire Use Plan or Burn Plan* - plan that establishes parameters or conditions for conducting a prescribed Fire (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Process or Process Equipment* - an action, operation, or treatment that involves equipment and processing that may emit air pollutants (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Process Unit* - a single process or piece of process equipment (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Process Wastewater Vessel* - a facility or part of a housed commercial swine feeding operation, other than a waste impoundment, which is used for the storage, treatment, evaporation or discharge of pollutant-containing wastewater, swine feeding process wastewater, waste solids, sludge, or associated sediment from a housed commercial swine feeding operation (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Process Weight* - the total weight of all materials introduced into a source operation that causes any discharge of air pollutants into the atmosphere. Solid fuels introduced into any specific source are considered as part of the process weight; liquid and gaseous fuels and combustion air, including excess air, are not (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Process Weight Rate* - a rate established as follows (5 CCR 1001-2, Section I) [Citation Added March 1999]:
 1. for continuous source operations, the total process weight for the entire period of continuous operation or for a typical portion thereof, divided by the number of h of such period
 2. for cyclical or batch unit operations or unit processes, the total process weight for a period that covers a complete operation or an integral number of such cycles divided by the hours of actual process operation

3. for operations not specified above, the process weight is determined by what results in a minimum value for allowable emissions.
- *Propellant* - a fuel and oxidizer physically or chemically combined that undergoes combustion to provide propulsion (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Public Access* - a site to which the general public has access in that entry onto such site is allowed or not prevented by natural or manmade barriers (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Publication Rotogravure Printing* - rotogravure printing upon paper that is subsequently formed into books, magazines, catalogues, brochures, directories, newspaper supplements, and other types of printed materials (5 CCR 1001-9, Section XIII(A)) [Citation Added March 1999] [Citation Revised March 2009; Citation Revised March 2010].
 - *Reasonably Available Control Technology (RACT)* - technology that achieves the maximum degree of emission control that a particular source is capable of meeting and that is reasonably available considering technological and economic feasibility (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Receptor* - any occupied dwelling used as a primary dwelling or its curtilage, a public or private school, or a place of business (5 CCR 1001-4 (B)(II)) [Added March 2008].
 - *Recycled Street Sanding Material* - previously used street sanding material that has been collected from roadways or paved areas and is then reused as is, after washing, or after blending with new street sanding material (5 CCR 1001-18, Section I(B)).
 - *Refrigerated Food Appliance* - any appliance, which is used to refrigerate foods for sale for human consumption (5 CCR 1001-19, Section I) [Added March 1999].
 - *Refrigerated Food Facility* - any stationary source that contains a refrigerated food appliance (5 CCR 1001-19, Section I) [Added March 1999].
 - *Residential Structures* - all buildings or other structures used primarily as a place of residence and includes both single and multi-family residential dwellings (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Roadways* - roads, other than haul roads, used for motorized vehicular traffic (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Roll Printing* - the application of words, designs, and pictures to a substrate usually by means of a series of hard rubber or steel rolls each only partial coverage (5 CCR 1001-9, Section XIII(A)) [Citation Added March 1999; Citation Revised March 2009; Citation Revised March 2010].
 - *Rotogravure Printing* - the application of words, designs, and pictures to a substrate by means of a roll printing techniques that involves an intaglio or recessed image areas in the form of cells (5 CCR 1001-9, Section XIII(A)) [Citation Added March 1999].
 - *Secondary Emissions* - emissions that would occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Shop* - the building that may house one or more air pollutant sources (5 CCR 1001-2, Section I) [Citation Added March 1999].
 - *Shop Opacity* - the opacity of the emissions emanating from the shop (5 CCR 1001-2, Section I) [Citation Added March 1999].

- *Shutdown* - the cessation of operation of an air pollutant source for any purpose (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Significant* - (5 CCR 1001-5, Part A, Section I):
 1. unless the context otherwise requires, for purposes of the Colorado Prevention of Significant Deterioration program, a significant rate of emissions in tons/yr is defined as a value that would be equal to or exceed any of the specifications in Appendix 1-2
 2. in reference to a net emissions increase or the potential of a source to emit a pollutant subject to regulation under the *Colorado Air Quality Control Act* or the Federal CAA that this definition does not list, any emissions rate
 3. notwithstanding the significant emission rates above, any net emissions increase associated with a major stationary source or major modification, that would construct within 10 km of a Class I area, and have an impact on this area equal to or greater than 1 microgram/m³ (24-h average).
- *Significant User of Prescribed Fire* – a federal, state or local agency or significant management unit thereof or person that, within any given calendar year: (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010]
 1. collectively manages or owns more than 10,000 acres of grassland and/or forest land within the state of Colorado; and
 2. plans to use prescribed fire to broadcast burn and/or pile burn, where the prescribed fires planned for a calendar year will generate more than ten tons of PM₁₀. See Appendix B of this regulation for information to estimate PM₁₀ emissions from prescribed fires.

(NOTE: The adoption of a fire management plan by a local or county unit of government pursuant to section 30-11-124, C.R.S., does not constitute management for purposes of this regulation unless the county or local unit of government owns or manages more than ten thousand acres (10,000) and is a significant user of prescribed fire.)
- *Site* - one or more contiguous or adjacent properties owned or operated by the same person or by persons under common control (5 CCR 1001-19, Section I) [Added March 1999].
- *Smoke Management* - use of techniques to reduce smoke emissions, dilute smoke, identification and reduction of the impact of smoke on smoke-sensitive areas, monitoring and evaluation of smoke impacts from individual and collective burns and coordination among land managers for these purposes (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Smoke Sensitive Areas or Receptors* - Class I areas and other locations of scenic and/or important vistas, especially during periods of significant public use, urban and rural population centers, schools, hospitals, nursing homes, transportation facilities such as roads and airports, recreational areas, and other locations that may be sensitive to smoke impacts for health, safety, and/or aesthetic reasons (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Solid Waste* - any waste classified as Type “0” through Type “6” as specified in the Incinerator Institute of America; any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant or air pollution control facility and other discarded materials, including solid liquid semisolid, or contained gaseous material resulting from private, public, community, industrial, or commercial operations. Solid waste does not include any untreated solids; dissolved materials in domestic sewage; agricultural waste; solid or dissolved materials in irrigation return flows; industrial discharges that are point sources (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Solvent Metal Cleaning* - the process of cleaning soils from metal surfaces by cold cleaning, conveyORIZED degreasing, nonconveyORIZED vapor degreasing (5 CCR 1001-9, Section X(A)(2)) [Citation Added March 1999].

- *Stack* - a flue, conduit, or duct arranged to conduct an air pollutant to the ambient air (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Standard Conditions* - a gas temperature of 20 deg C and a gas pressure of 1 atmosphere (760 torr) (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Standard of Performance* - a regulation that limits the quantity, rate, or concentration of emissions of air pollutants on a continuous basis (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Startup* - any setting in operation of an air pollutant source for any purpose (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Stationary Appliance* - any refrigeration and air conditioning equipment that contains and uses an ozone depleting compound refrigerant, which is not portable by nature or design or considered an integral part of a building or structure, has compressor(s) motors rated by the original equipment manufacturer at one hundred (100) horsepower or greater, and is not a refrigerated food appliance. The calculation of the horsepower of a stationary appliance shall be based on an evaluation of the compressor motor(s). For purposes of this Regulation No. 15 and registration requirements, a stationary appliance shall also mean one or more compressor(s) and all necessary piping and hardware required to make that system operate as designed. All configurations may be considered a system if connected by a common evaporator, condenser, or air handling unit, or if compressors are housed in a common framework (5 CCR 1001-19, Section I) [Added March 1999].
- *Stationary Source* - any building, structure, facility, equipment, or installation, or any combination thereof, that is located on one or more contiguous or adjacent properties and that is a source of air pollutants (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Street Sanding Materials* - natural geologic materials, excluding salt and other de-icing chemicals, used to provide increased traction on roadways or paved areas (5 CCR 1001-18, Section I(B)).
- *Sulfur Dioxide (SO₂)* - all oxidized forms of sulfur including but not limited to sulfur trioxide, thionyl chloride, and sulfuric acid mist (5 CCR 1001-3, Section VI(E)) [Citation Added March 1999].
- *Surface Coating* - a liquid, liquefiable, or mastic composition which is converted to a solid (or semisolid) protective, decorative, or adherent film or deposit after application as a thin layer or by impregnation (NOTE: In a machine which has both coating and printing units, all units shall be considered as performing a printing operation. Such a machine is subject to the standards governing graphic arts, and thus is not covered by coating standards.) (5 CCR 1001-9, Section IX).
- *Suppression Action or Activities* - any activity in which the land manager or responsible fire agency personnel take appropriate fire management actions intended to actively confine, contain or control a fire. Suppression action may include the use of natural fire barriers such as cliffs, rocks, or rivers as part of a suppression strategy (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Swine Feeding Process Wastewater* - any process-generated wastewater used in a housed commercial swine feeding operation, including water used for feeding, flushing, or washing, and any water or precipitation that comes into contact with any manure, urine, or any product used in or resulting from the production of swine. As used in this Part B of Regulation No. 2, "process wastewater" shall mean "swine feeding process wastewater" (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Transfer and Loading System* - any equipment or processes used to transfer or load materials for storage or shipment (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *True Vapor Pressure* - the equilibrium partial pressure exerted by petroleum or other liquid (5 CCR 1001-9, Section II) [Citation Added March 1999].

- *Unclassified Area* - an area within Colorado that cannot, on the basis of available information, be classified as attainment or nonattainment (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Unplanned Ignition Fire* - prescribed fire ignited by natural phenomena or by military munitions. Unplanned ignition fires include wildland fires used for resource benefits and wildland fires ignited by military munitions (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Upset Conditions* - an unpredictable failure of air pollution control or process equipment that results in the violation of emission control regulations and that is not due to poor maintenance, improper or careless operations, or is otherwise preventable through exercise of reasonable care (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Utilizes Air or Oxygen* - a waste treatment method that utilizes air or oxygen at a minimum at one (1) part per million of dissolved oxygen throughout the liquid column of the impoundment or a waste treatment method that is designed to meet the oxygen demand of the waste loading (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Visibility Impairment* - any humanly perceptible change in visibility from that which would have existed under natural conditions (5 CCR 1001-5, Part B, Section XI(C)) [Citation Added March 1999].
- **VOLATILE ORGANIC COMPOUND (VOC)** (see also Highly Volatile Organic Compound) - any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, that participates in atmospheric photochemical reactions, except those listed in the definition of negligibly reactive volatile organic compounds included in this regulation as having negligible photochemical reactivity. Volatile organic compounds may be measured by test methods specified in Colorado's EPA-approved State Implementation Plan, a Title V Permit, a reference method, an equivalent method, an alternative method or by procedures specified under the Code of Federal regulations Title 40, Part 60, Title 40 Part 51, Subpart I or Appendix S, or Title 40, Part 52. Prior approval from the U.S. EPA is required in order to use an equivalent or alternative method. A reference method, an equivalent method or an alternative method, however, may also measure nonreactive organic compounds. In such cases, an owner or operator may exclude the compounds listed in the definition of net emission increase when determining compliance with a standard if the amount of such compound is accurately quantified and the Division approves such exclusion. As a precondition to excluding such compounds as volatile organic compounds, or at any time thereafter, the Division may require an owner or operator to provide monitoring or testing methods and results demonstrating, to the satisfaction of the Division, the amount of negligibly reactive compounds in the source's emissions. For the purposes of photochemical dispersion modeling, the non-criteria reportable NRVOC tertiary butyl acetate (also 2-butanone) shall be treated as a VOC (5 CCR 1001-2 Section I (G)) [Added March 2010].
- *Waste Impoundment* - Also termed "impoundment", - a facility or part of a housed commercial swine feeding operation which is a natural topographic depression, man-made excavation, or diked area formed of man-made or earthen materials, which is used for the storage, treatment, evaporation or discharge of pollutant-containing wastewater, waste solids, sludge, or associated sediment from a housed commercial swine feeding operation (5 CCR 1001-4 (B)(II)) [Added April 2000].
- *Welfare* - the effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate; damage to and deterioration of property; and hazards to transportation, as well as effects on economic values and on personal comfort and well-being (5 CCR 1001-2, Section I) [Citation Added March 1999].
- *Wildfire* - any fire that is not intended for use for grassland or forest management, regardless of whether the fire is ignited by natural or human means (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].

- *Wildlands* - an area where development is generally limited to roads, railroads, power lines and widely scattered structures. The land is not cultivated (i.e., the soil is disturbed less frequently than once in ten years), is not fallow, and is not in the United States Department of Agriculture Conservation Reserve Program. The land may be neglected altogether or managed for such purposes as wood or forage production, wildlife, recreation, wetlands or protective plant cover (5 CCR 1001-11, Section II) [Added April 2003; Citation Revised March 2010].
- *Wood Burning Fireplace* - an appliance designed for or capable of burning wood that does not meet the definition of a wood burning stove (5 CCR 1001-6, Section I) [Citation Added March 1999].
- *Wood Burning Stove* - an appliance designed for or capable of burning wood, including a fireplace insert, capable of and intended for domestic space heating or domestic water heating that meets all of the following criteria (5 CCR 1001-6, Section I) [Citation Added March 1999]:
 1. an air-to-fuel ratio in the combustion chamber averaging less than 35-to-1 as determined by the USEPA Method 28A as set forth in the Federal Regulations 40 CFR 60 AAA, Appendix A
 2. an unusable firebox volume of less than 20 ft³
 3. a minimum burn rate of less than 5 kg/h
 4. a maximum weight of 800 kg.
- *Wood Residue* - bark, sawdust, slabs, chips, shavings, mill trim, and other wood products derived from wood processing and forest management operations (5 CCR 1001-2, Section I) [Citation Added March 1999].

**AIR EMISSIONS MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

Missing Checklist Items	AE.2.1.CO.
General	AE.5.1.CO.
Permits/ Notifications/ Exemptions	AE.6.1.CO. through AE.6.5.CO.
Emission Limits	AE.9.1.CO. through AE.9.6.CO.
Steam Generators	AE.10.1.CO. through AE.10.4.CO.
(NOTE: The state has adopted the Federal Standards of Performance for fossil-fuel-fired steam generators for which construction is commenced after 17 August 1971 (40 CFR 60, Subpart D, effective 1 July 1998) but not any subsequent amendments.)	
(NOTE: The state has adopted the Federal Standards of Performance for electric utility steam generators for which construction is commenced after 18 September 1978 (40 CFR 60, Subpart Da, effective 16 September 1998) but not any subsequent amendments.)	
(NOTE: The state has adopted the Federal Standards of Performance for industrial-commercial-institutional steam generating units (40 CFR 60, Subpart Db, effective September 1998) but not any subsequent amendments.)	
(NOTE: The state has adopted the Federal Standards of Performance for small industrial-commercial-institutional steam generating units (40 CFR 60, Subpart Dc, effective 1 July 1998) but not any subsequent amendments.)	
Fuel Burning Equipment	AE.15.1.CO. through AE.15.4.CO.
Gas Turbines	
(NOTE: The state has adopted the Federal Standards of Performance for stationary gas turbines (40 CFR 60, Part GG, effective 1 July 1998) but not any subsequent amendments.)	
Gas Turbines/Stationary Engines	AE.20.1.CO.
Miscellaneous Incinerators	AE.25.1.CO. through AE.25.3.CO.
(NOTE: The state has adopted the Federal Standards of Performance for incinerators (40 CFR 60, Part E, effective 1 July 1998) but not any subsequent amendments.)	
Medical Waste Incinerators	
(NOTE: The state has adopted the Standards of Performance for Hospital/Medical/Infectious Waste Incinerators for Which construction is commenced After 20 June 1996 (40 CFR Part 60, Subpart Ec, effective 1 July 1998), and Emission Guidelines and compliance Times for Hospital/Medical/Infectious Waste Incinerators (40 CFR Part 60, subpart Ce, effective 1 July 1998).)	
General	AE.30.1.CO. through AE.30.4.CO.
Monitoring	AE.32.1.CO.
Reporting/Record Requirements	AE.34.1.CO.
Municipal Waste Combustor	AE.35.1.CO. through AE.35.8.CO.
(NOTE: These regulations also apply to facilities or equipment that burn Refuse Derived Fuel. The state has adopted the Federal Standards of Performance for municipal waste combustors (40 CFR 60, Part Ea, effective 1 July 1998) but not any subsequent amendments.)	
Gasoline/Fuels	AE.55.1.CO. and AE.55.2.CO.
Printing Presses and Graphic Arts	AE.60.1.CO.
(NOTE: The state has adopted the Federal Standards of Performance for the graphic arts industry: publication rotogravure printing (40 CFR 60, Part QQ, effective 1 July 1998) but not any subsequent amendments.)	
Fugitive Emissions	AE.65.1.CO. through AE.65.6.CO.
Dry Cleaning Operations	[Deleted]
Petroleum Solvent	
(NOTE: The state has adopted the Federal Standards of Performance for petroleum dry cleaners (40 CFR 60, Part JJJ, effective 1 July 1998) but not any subsequent amendments.)	
Acid Production Units	

**AIR EMISSIONS MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

(NOTE: The state has adopted the Federal Standards of Performance for nitric acid plants (40 CFR 60, Part G, effective 1 July 1998) but not any subsequent amendments.)

(NOTE: The state has adopted the Federal Standards of Performance for sulfuric acid plants (40 CFR 60, Part H, effective 1 July 1998) but not any subsequent amendments.)

CFCs and Halons	
Repairs/Recycling	AE.90.1.CO. and AE.90.2.CO.
Recordkeeping	AE.95.1.CO. and AE.95.3.CO.
Coating Operations	[Deleted]
Degreasing Operations	
General	AE.115.1.CO. and AE.115.2.CO.
Cold Cleaning	AE.116.1.CO.
Oil/Water Separators	AE.120.1.CO.
Miscellaneous VOC Operations	AE.125.1.CO. through AE.125.4.CO.
Open Burning	AE.130.1.CO. through AE.130.6.CO.
Vehicle Emissions	AE.135.1.CO. through AE.135.12.CO.
Mobile Sources	AE.140.1.CO.
Asphalt Paving Materials/Operations	AE.145.1.CO.
Other Emissions/Sources	AE.155.1.CO. through AE.155.9.CO.
County/City Specific Requirements	AE.160.1.CO. and AE.160.2.CO.

**AIR EMISSIONS MANAGEMENT
GUIDANCE FOR COLORADO APPENDIX USERS**

REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
1-1	PSD Area Classifications
1-2	Definition of Significant
1-3	APEN Exemptions
1-4	Construction Permit Exemptions
1-5	Stationary Source Categories
1-6	Air Quality Limitations: Maximum Allowable Increases Over Baseline Concentrations
1-7	General Requirements for Operating Permits
1-8	Minimum Cooling Capacities for Refrigerated Freeboard Chillers on Vapor Degreasers
1-9	AIR Program Area
1-10	Ambient Air Quality Standards for the State of Colorado
1-11	Decision Information for De Minimus Prescribed Burning and Significant Users of Prescribed Fire

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
AE.2 MISSING CHECKLIST ITEMS AE.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
STATE-SPECIFIC REQUIREMENTS AE.5 General AE.5.1.CO. Standards for emissions of odorous air must be met (5 CCR 1001-4 Pt. A, I, II, and V) [Revised March 2009].	<p>Verify that the following emissions limitations are met:</p> <ul style="list-style-type: none"> - for predominantly residential or commercial areas, odors are not detected after the odorous air has been diluted with 7 or more volumes of odor-free air - for all other areas, odors are not detected after the odorous air has been diluted with 15 or more volumes of odor-free air. <p>Verify that 2 odor measurements are made within a period of one hour, separated by at least 15 minutes, outside the property line of the property from which the emission originates.</p> <p>Verify that, when the source is a manufacturing process, the source has an affirmative defense to a violation, provided that the source demonstrates that it is utilizing the best practical treatment, maintenance, and control currently available in order to maintain the lowest possible emission of odorous gases.</p> <p>(NOTE: This does not apply to housed commercial swine feeding operations, or to agricultural production that is not considered a major stationary source.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>STATE-SPECIFIC REQUIREMENTS</p> <p>AE.6 Permits/Notifications</p> <p>AE.6.1.CO. Sources must submit an Air Pollution Emission Notice (APEN) to the division before operating any sources of air pollutants (5 CCR 1001-5, Part A, Section II) [Revised March 2006].</p>	<p>(NOTE: Exempted sources are found in Appendix 1-3).</p> <p>Verify that the Air Pollutant Emission Notice includes an estimate of the annual actual emissions, including emission controls.</p> <p>(NOTE: The emissions estimate shall be based upon actual test data or, in the absence of such data, upon estimations acceptable to the division. An Air Pollutant Emission Notice is valid for a period of 5 years. The five-year period recommences when a revised Air Pollutant Emission Notice is received by the division.)</p> <p>Verify that the APEN report is current.</p> <p>Verify that the revised APEN reports are filed in compliance with this schedule:</p> <ul style="list-style-type: none"> - annually, if there is a significant change (see definitions) in the air pollution emitted - the potential to emit more than 100 tons/yr of a pollutant occurs - at least once every 3 yr if a significant change in the emissions occurs that is different from above - whenever new control equipment is installed, or whenever a different type of control equipment replaces an existing type of control equipment (revised APENs are not required for routine maintenance, repair, or replacement of control equipment) - whenever a permit limitation must be modified - at least 30 days before the APEN expires - when there is a change in management of the facility, the process, or activities. <p>Verify that when there is a change in location, the relocation notice is submitted at least 10 days prior to the change in location.</p> <p>Verify that APEN reports revised due to actual changes in emissions are submitted by 1 April of each year and contain emission estimates for the preceding calendar year.</p> <p>Verify that APEN reports revised due to changes in control equipment are submitted before the change in control equipment occurs.</p> <p>Verify that an APEN is filed for all incinerators.</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.6.2.CO. Sources must have a permit to commence construction or modification of a stationary source (5 CCR 1001-5, Part B, Section II) [Citation Revised March 2009].</p>	<p>(NOTE: See Appendix 1-4 for a list of facilities exempt from this permit requirement.)</p> <p>Verify that the source has obtained a valid permit to construct or modify any stationary source of air pollution.</p> <p>Verify that the source has received approval from the Division to make any transfers in the ownership of air pollution sources.</p> <p>Verify that permitted portable sources have their emission permit numbers permanently and prominently displayed on each major component of equipment that is a part of that portable source.</p> <p>Verify that all incinerators have permits.</p>
<p>AE.6.3.CO. Sources must have a permit prior to operation of a stationary source (5 CCR 1001-5, Part C, Section I and II(A)) [Revised March 2006; Citation Revised March 2010].</p>	<p>Verify that the source has obtained a valid permit to operate any source listed in Appendix 1-5.</p> <p>(NOTE: This requirement to obtain an operating permit does not apply to those sources listed as exempt in Appendix 1-5.)</p> <p>(NOTE: Operating permit modifications that do not qualify as minor permit modifications or as administrative permit amendments. At a minimum, a significant permit modification include:</p> <ul style="list-style-type: none"> - any change that causes a significant increase in the rate of emissions as described by any permit term or condition - any change that is considered a modification under Title I of the Federal Act - any change that requires or changes a case by case determination of an emission limitation or other standard - any change that requires or changes a source specific determination for temporary sources of ambient impacts - any change that requires or changes a visibility or increment analysis - every significant change in existing monitoring permit terms or conditions - every relaxation of reporting or record keeping permit terms or conditions - every change that seeks to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject.) <p>Significant permit modifications shall be processed using the procedures set forth in Part C of Regulation No. 3 for combined Construction/Operating Permit issuance. Such source may choose to obtain a construction permit pursuant to Part B and shall subsequently meet the operating permit requirements of Part C.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.6.4.CO. Sources that are located in a Class I area must meet permit requirements (5 CCR 1001-3, Part D, Section XIV.D) [Revised March 2010].</p>	<p>Verify that the source has obtained a permit for any facility that contributes to visibility impairment in a Class I area.</p> <p>Verify that the source has installed and is using BART (best available retrofit technology) in these facilities no later than 5 yr after a permit has been issued.</p> <p>(NOTE: If economic or technical limitations make BART unable to be used, other design, equipment, work practice, or operational standard, or a combination to represent BART may be approved by the State. Also, a source may apply to the USEPA for exemption from installing BART.)</p>
<p>AE.6.5.CO. Any new major source or major modification proposed to be constructed in any area designated as nonattainment, attainment or unclassifiable for any critical pollutant must have a permit (5 CCR 1001-3, Part D, Section I.A.1 [Revised March 2006; Revised March 2007].</p>	<p>Verify that any new major stationary source or major modification does not begin actual construction in a nonattainment, attainment, or unclassifiable area unless a permit has been issued containing all applicable state and federal requirements.</p> <p>(NOTE: Area classification can be found in 5 CCR Regulation No. 3, Part D, VIII.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>2006].</p> <p>AE.9.4.CO. Sources must meet specific standards for smoke emitted from certain sources (5 CCR 1001-3, Section II(A)(4) and (5)) [Revised March 2002].</p> <p>AE.9.5.CO. All existing sources of SO₂ emissions must comply with specific criteria (5 CCR 1001-3, Section VI(A)(1) and (2)) [Revised March 2006].</p> <p>AE.9.6.CO. Sources must not contribute to the exceedance of ambient air standards for SO₂ (5 CCR 1001-14, Section I) [Citation Revised March 2009].</p>	<p>exposed to the wind or later acted upon by another force as the wind or automobile traffic, or particulate matter being thrown into the atmosphere by the operation of a bulldozer.)</p> <p>Verify that the emissions of air pollutants do not exceed 20 percent opacity.</p> <p>Verify that intermittent sources take readings at 15-s intervals during periods of operation until 24 readings have been made or for a period of 30 min, whichever is sooner.</p> <p>Verify that the source is not emitting air pollutants resulting from the following in excess of 30 percent opacity for a period or periods aggregating more than 6 min in any 60 consecutive minutes:</p> <ul style="list-style-type: none"> - the building of a new fire - cleaning of fire boxes - soot blowing - start-up, any process modification, or adjustment or occasional cleaning of control equipment - smokeless flares for combustion of waste gases. <p>(NOTE: The following requirements apply to existing sources (those sources constructed or modified prior to 11 August 1977) of SO₂ except for certain electric generating stations owned and operated by the Public Service Company of Colorado.)</p> <p>Verify that the averaging time for all SO₂ emissions standards is a 3-hour rolling average unless otherwise specified.</p> <p>Verify that the sum of SO₂ emission rates for all sources located on a contiguous site is less than 3 tons/day.</p> <p>(NOTE: If all Federal and state ambient air quality standards are met, no process-based emission standard applies.)</p> <p>Verify that the actual concentration of SO₂ at any given receptor site (no greater than 5 m above ground level) does not exceed a 3-h maximum of 700 micro g/m³ more than once in any 12-mo period.</p> <p>Verify that the source does not exceed the following ambient air standards for SO₂:</p> <ul style="list-style-type: none"> - Annual Arithmetic Mean:

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
	<ul style="list-style-type: none"> - category I (incremental) - 2 - category II (incremental) - 10 - category I (incremental) - 15 - 24-h Maximum <ul style="list-style-type: none"> - category I (incremental) - 5 - category II (incremental) - 50 - category I (incremental) - 100 - 3-h Maximum <ul style="list-style-type: none"> - category I (incremental) - 25 - category II (incremental) - 300 - category I (incremental) - 700. <p>(NOTE: These standards are expressed as allowable amounts of increase in ambient concentration (increments) over an established baseline. All concentrations are expressed in micrograms per actual cubic meter under local conditions of temperature and pressure.)</p> <p>(NOTE: The above 24-h and 3-h standards are not to be exceeded at any given receptor site more than once in the 12-mo period.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.10.</p> <p>STEAM GENERATORS</p> <p>AE.10.1.CO. Large fossil-fired steam generators must be monitored continuously for air pollutants (5 CCR 1001-3, Section IV(B)) [Citation Revised July 1997; Citation Revised May 1998].</p> <p>AE.10.2.CO. Existing SO₂ sources must meet specific emissions limitations (5 CCR 1001-3, Section VI(A)(3)) [Citation Revised July 1997; Revised May 1998; Revised March 2010].</p>	<p>(NOTE: The following are exceptions to this criteria:</p> <ul style="list-style-type: none"> - gaseous fuel is the only fuel burned - oil or a mixture of gas and oil are the only fuels burned and the source is able to comply with the applicable particulate emission and opacity regulation without using particulate collection equipment - where the source demonstrates that a continuous monitoring system would not provide accurate determinations of the opacity of emissions and an alternative method of determining opacity is approved by the Division is employed.) <p>Verify that when a source operates a steam generator of a total rated capacity of or greater than 250 MBtu/h heat input, one of the following criteria is met:</p> <ul style="list-style-type: none"> - a continuous emission monitoring system for the measurement of SO₂ is installed, calibrated, maintained, and operated - a Division-approved sampling plan is developed and implemented for determining the amount of sulfur in the fuel. <p>Verify that the source has installed a continuous monitoring system for measuring either O₂ or CO₂.</p> <p>(NOTE: Sources constructed or modified prior to August 11, 1977 shall be considered an existing source.)</p> <p>Verify that existing coal-fired operations, including coal-fired steam generators, do not exceed the following limits:</p> <ul style="list-style-type: none"> - for sources with a heat input from coal or coal-based byproduct fuels of less than 300 MBtu/h, 1.8 lb of SO₂ per Mbtu - for sources with a heat input from coal or coal-based by product fuels equal to or greater than 300 MBtu/h, 1.2 lb of SO₂ per Mbtu. <p>Verify that existing oil-fired operations, including oil-fired steam generators, do not exceed the following limits:</p> <ul style="list-style-type: none"> - for sources with a heat input from oil of less than 300 MBtu/h, 1.5 lb of SO₂ per Mbtu - for sources with a heat input from oil of 300 million or more Btu/h, 0.8 lb of SO₂ per Mbtu. <p>Verify that existing combustion turbines meet the following emission limitations:</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.10.3.CO. All new sources of SO₂ emissions must meet the emissions limitations (5 CCR 1001-3, Section VI(B)(2), (4), and (5)) [Revised July 1997; Revised May 1998; Revised March 2002; Revised March 2010].</p>	<ul style="list-style-type: none"> - for sources with a heat input of less than 300 MBtu/h, 1.2 lb of SO₂ per Mbtu - for sources with a heat input of 300 million or more Btu/h, 0.8 lb of SO₂ per Mbtu. <p>Verify that not more than 2 lb of SO₂ per 1000 ft³ of delivered gas is emitted from a natural gas desulphurization source emitting more than 5 tons/day of SO₂.</p> <p>Verify that cement manufacture is limited to 7 lb of SO₂ per ton of material (including fuel) processed over each 24-hour period.</p> <p>(NOTE: A new source is defined as a newly constructed or modified source of sulfur dioxide emissions which has not been issued an Emission Permit prior to the August 11, 1977.)</p> <p>(NOTE: The averaging time for all new source emissions standards for SO₂ is 3 h.)</p> <p>Verify that coal-fired operations, including coal-fired steam generators, do not exceed the following emissions limitations:</p> <ul style="list-style-type: none"> - for sources converted from other fuels to coal, 1.2 lb SO₂/MBtu of coal heat input - for sources with a coal heat input of less than 250 MBtu/h, 1.2 lb SO₂/MBtu coal heat input - for sources with a coal heat input of 250 MBtu/h or greater, 0.4 lb SO₂/MBtu coal heat input. <p>Verify that oil-fired operations including oil-fired steam generators do not exceed the following emissions limitations:</p> <ul style="list-style-type: none"> - for sources with an oil heat input of less than 250 MBtu/h, 0.8 lb SO₂/MBtu of oil heat input - for sources with an oil heat input of 250 MBtu/h or greater, 0.3 lb SO₂/MBtu of oil heat input. <p>Verify that combustion turbines have the following limitations:</p> <ul style="list-style-type: none"> - for sources with a heat input of less than 250 MBtu/h or greater, 0.8 lb SO₂/MBtu - for sources with a heat input 250 million or more Btu/h, 0.35 lb SO₂/MBtu. <p>Verify that any source not specified is limited to only 2 tons/day of SO₂, or utilize the best available control technology as determined by the Commission.</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
AE.10.4.CO. [Deleted March 2002].	(NOTE: Regulations revised.)

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<p>AE.15.</p> <p>FUEL BURNING EQUIPMENT</p> <p>AE.15.1.CO. New fuel-burning equipment must not allow the discharge of particulates from in excess of specific limitations (5 CCR 1001-8, Part B, Section II(C)) [Citation Revised July 1997; Citation Revised May 1998; Citation Revised March 2009; Citation Revised March 2010].</p> <p>AE.15.2.CO. New fuel-burning sources must not cause the discharge of SO₂ in excess of specific amounts (5 CCR 1001-8, Part B, Section II(D)) [Citation Revised July 1997; Citation Revised May 1998; Citation Revised March 2009; Revised March 2010].</p>	<p>(NOTE: The provisions regarding new fuel burning equipment are applicable to fuel burning equipment constructed, reconstructed, or modified after 30 January 1979 (5 CCR 1001-8, Part B, Section II(A) [Added May 1998].)</p> <p>Verify that the new fuel burning equipment does not exceed the following limitations:</p> <ul style="list-style-type: none"> - particulate emission is not in excess of 0.5 lb/MBtu input for fuel burning equipment of not more than 1 MBtu/h total input - for fuel burning equipment generating greater than 1 MBtu/h but less than 250 MBtu/h heat input, the following equation is used to determine the allowable particulate emission limitation: $PE = 0.5 (FI)^{-0.26}$ <p style="margin-left: 40px;">where: PE = Particulate Emission in pounds per million British thermal unit heat input FI = Fuel Input in million British thermal units per hour</p> - for 2 or more units connected to any opening, the maximum allowable emission rate is the sum of the individual emission rates - greater than 20 percent opacity is not released. <p>Verify that coal-fired operations meet the following limitations:</p> <ul style="list-style-type: none"> - sources converted from other fuels to coal is limited to 1.2 lb SO₂/MBtu of coal heat input - sources with coal heat input of less than 250 MBtu/h is limited to 1.2 lb SO₂/MBtu coal heat input - sources with coal heat input of 250 MBtu/h or greater is limited to 0.4 lb SO₂/MBtu coal heat input - industrial-commercial-institutional steam generating units with a coal heat of more than 250 MBtu/h are limited to 30 percent (70 percent reduction) of the potential combustion concentration when emissions are less than 0.60 lb per MBtu heat input. <p>Verify that oil-fired operations meet the following limitations:</p> <ul style="list-style-type: none"> - sources with an oil heat input of 250 MBtu/h or less are limited to 0.8 lb SO₂/MBtu of oil heat input - sources with an oil heat input of 250 MBtu/h or more are limited to 0.3 lb SO₂/MBtu of oil heat input - industrial-commercial-institutional steam generating units with an oil heat of more than 250 MBtu/h are limited to 100 percent (0 percent reduction) of the

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<p>AE.15.3.CO. [Deleted March 2010].</p> <p>AE.15.4.CO. Fuel burning sources must follow specific requirements for the amount of particulates in the flue gases emitted into the air (5 CCR 1001-3 Section III(A)) [Citation Revised July 1997; Revised May 1998; Revised March 2002; Revised March 2006; Citation Revised March 2009; Revised March 2010].</p>	<p>potential combustion concentration when emissions are less than 0.20 lb/MBtu heat input.</p> <p>Verify that combustion turbines meet the following limitations:</p> <ul style="list-style-type: none"> - sources with a heat input of less than 250 MBtu/h are limited to 0.8 lb SO₂/MBtu - sources with a heat input of 250 MBtu/h or more are limited to 0.35 lb SO₂/MBtu. <p>(NOTE: 5 CCR 1001-8, Part B, Sections IV applies to natural gas desulfurization, petroleum refineries, production of oil from shale, shale oil upgrading facilities, refining of oil from shale and any other new source of SO₂ not specifically covered by other sections of this regulation.)</p> <p>Verify that particulate emissions do not exceed the following limitations:</p> <ul style="list-style-type: none"> - for fuel burning equipment of less than or equal to 1x10⁶ BTU/hr total heat input capacity : 0.5 lb/MBtu heat input - for fuel burning equipment with designed heat inputs greater than 1 x10⁶ BTU per hour, but less than or equal to 500x10⁶ BTU per hour, the following equation will be used to determine the allowable particulate emission limitation: $PE = 0.5(FI)^{-0.26}$ <p>where: PE = Particulate Emission in Pounds/MBtu heat input FI = Fuel Input in Mbtu/h</p> - for fuel burning equipment of greater than 500 x10⁶ BTU/hr or more: 0.1 lb/10⁶ BTU heat input. <p>(NOTE: If to or more fuel burning units are connected to any opening, the maximum allowable emission rate must be calculated on lb/hour basis as calculated from a weighted average of the individual allowable limits for each unit ducting to the common stack.)</p>

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<p>AE.20.</p> <p>GAS TURBINES/STATIONARY ENGINES</p> <p>AE.20.1.CO. Natural gas-fired stationary or portable reciprocating internal combustion engine with a manufacturer's design rate greater than 500 horsepower commencing operations in the 8-hour Ozone Control Area on or after June 1, 2004 must meet pollution control requirements (5 CCR 1001-9, Section XVI) [Added March 2006; Citation Revised March 2009].</p>	<p>Verify that any existing natural gas-fired stationary or portable reciprocating internal combustion engine with a manufacturer's design rate greater than 500 horsepower, which existing engine was operating in the 8-hour Ozone Control Area prior to June 1, 2004, employs air pollution control technology on and after May 1, 2005.</p> <p>Verify that, for rich burn reciprocating internal combustion engines, a non-selective catalyst reduction and an air fuel controller is employed.</p> <p>(NOTE: A rich burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of less than 2 percent by volume. A lean burn reciprocating internal combustion engine is one with a normal exhaust oxygen concentration of 2 percent by volume, or greater.)</p> <p>Verify that, for lean burn reciprocating internal combustion engines, an oxidation catalyst is employed.</p> <p>Verify that the required emission control equipment is appropriately sized for the engine and operated and maintained according to manufacturer specifications.</p> <p>(NOTE: The air pollution control technology requirements in this section XVI do not apply to:</p> <ul style="list-style-type: none"> - non-road engines, as defined in Regulation No. 3 (see definition below) - reciprocating internal combustion engines that the division has determined will be permanently removed from service or replaced by electric units on or before May 1, 2007. The owner or operator of such an engine shall provide notice to the division of such intent by May 1, 2005 and shall not operate the engine identified for removal or replacement in the 8-hour Ozone Control Area after May 1, 2007 - any emergency power generator exempt from APEN requirements pursuant to Regulation No. 3 - any lean burn reciprocating internal combustion engine operating in the 8-hour Ozone Control Area prior to June 1, 2004, for which the owner or operator demonstrates to the Division that retrofit technology cannot be installed at a cost of less than \$ 5,000 per ton of VOC emission reduction. Installation costs and the best information available for determining control efficiency shall be considered in determining such costs. In order to qualify for such exemption, the owner or operator must submit an application making such a demonstration, together with all supporting documents, to the Division by May 1, 2005. Any reciprocating internal combustion engine qualifying for this exemption shall not be moved to any other location within

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	<p>the 8-hour Ozone Control Area.)</p> <p>(NOTE: Non-road Internal Combustion Engines: Machinery utilized by the construction and service industries such as various types of pumps, light plants, compressors, and generators are powered by various sizes of internal combustion engines. Most are relatively small. Some emergency equipment such as fire pumps are powered by larger engines, but are operated infrequently. The exemptions listed above identify those within this category, which have insignificant emissions. This exemption is consistent with other exemptions in the regulation (see, for example, subsections k. and l.). As a practical matter, APENS have not been required from most of these machines in the past. The sizes of most of these engines are comparable to the thousands of light and heavy trucks (gasoline and diesel powered) which travel the roads in this state without any reporting requirements.)</p>

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AE.25. MISCELLANEOUS INCINERATORS AE.25.1.CO. Incinerators (other than biomedical waste incinerators) and air curtain destructors must meet permit and performance standards (5 CCR 1001-3, Section III(B) (1) and (2)) [Citation Revised July 1997; Revised March 2006; Revised March 2007]. AE.25.2.CO. New incinerators must meet performance standards (5 CCR 1001-8, Part B, Section VII(C)(1) and (2) [Citation Revised July 1997; Citation Revised May 1998]. AE.25.3.CO. New incinerators must meet monitoring standards (5 CCR 1001-8, Part B, Section VII(D)) [Citation Revised July 1997; Citation Revised May 1998].	<p>Verify that incinerators or air curtain destructors are not operated without a permit.</p> <p>Verify that an incinerator or air curtain destructor in a nonattainment or attainment/maintenance area for PM does not allow any incinerator to emit more than 0.10 gr of PM/scf (dry flue gas corrected to 12 percent CO₂).</p> <p>Verify that an incinerator or air curtain destructor in an attainment area for PM does not allow any incinerator to emit more than 0.15 gr of PM/scf (dry flue gas corrected to 12 percent CO₂).</p> <p>(NOTE: These requirements apply to all incinerators other than biomedical waste incinerators and air curtain destructors subject to 40 CFR 60.)</p> <p>Verify that an incinerator with a charging rate greater than 45 metric tons/day (50 tons/day) does not discharge into the atmosphere PM in excess of 20 percent opacity AND 0.18 gr/dry scm (0.08 gr/dry scf) corrected to 12 percent CO₂, on or after the date of the incinerator's required performance test.</p> <p>Verify that an incinerator with a charging rate of 50 tons or less per day does not discharge into the atmosphere PM in excess of 20 percent opacity and 0.229 gr/dry scm (0.10 gr/dry scf) corrected to 12 percent CO₂, on or after the date of the incinerator's required performance test.</p> <p>(NOTE: The provisions of this section are applicable to all incinerators constructed, reconstructed, or modified after January 30, 1979. Incinerators that are subject to Part A, Subpart E are also subject to this section. Incinerators that are subject to Part A. Subpart Ea, or Part B, Sections V or VI, are not subject to this section.)</p> <p>Verify that the incinerator records the daily charging rate and hours of operation.</p> <p>(NOTE: The provisions of this section are applicable to all incinerators constructed, reconstructed, or modified after January 30, 1979. Incinerators that are subject to Part A, Subpart E are also subject to this section. Incinerators that are subject to Part A. Subpart Ea, or Part B, Sections V or VI, are not subject to this section.)</p>

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Part B, Section V(D)(1)-(6) and (8)) [Citation Revised July 1997; Citation Revised May 1998].	<p>Verify that the biomedical incinerator is equipped with a secondary combustion chamber or zone that provides for all of the following:</p> <ul style="list-style-type: none"> - turbulent mixing - 2 s of residence time at 1800 deg F or greater for incinerators located at a facility with a total incineration design capacity of 200 lb/h or greater - 1 s of residence time at 1800 deg F or greater for incinerators located at a facility with a total incineration design capacity of less than 200 lb/h. <p>Verify that auxiliary burners are designed to provide the combustion chamber temperatures of at least 1800 deg F without the assistance of the heat content of the waste.</p> <p>Verify that the waste-charging system is designed to prevent disruption of the combustion process as waste is charged.</p> <p>Verify that batch-fed units are equipped with a lock-out mechanism to prevent charging after startup.</p> <p>Verify that units with automatic feed systems are equipped with a sealed feeding device capable of preventing combustion upsets during charging.</p> <p>Verify that the volumes of the loading system are designed to prevent overcharging thereby assuring complete combustion of the waste.</p> <p>Verify that batch fed incinerators have interlocks that prevent charging until both of the following are met:</p> <ul style="list-style-type: none"> - the secondary chamber exit temperature is established and holding at 1800 deg F - the combustion cycle is complete. <p>Verify that, for continually fed incinerators, the charging of waste automatically ceases by using an interlock system, if the either of the following occurs:</p> <ul style="list-style-type: none"> - the incinerator's secondary temperature drops below 1800deg F for any continuous 15-min period - the CO emissions are equal to or greater than 150 ppmv, corrected to 7 percent O₂ on a dry basis for any continuous 15-min period. <p>Verify that each incinerator operates so that the following occurs:</p> <ul style="list-style-type: none"> - the incinerator continues to meet applicable emission limitations during a shutdown - the secondary combustion chamber or combustion zone temperature is maintained at 1800 deg F or above until the waste is completely combusted. <p>Verify that radioactive waste and hazardous waste are not burned in an incinerator unless the incinerator has met the requirements of the Radiation Control Division</p>

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<p>AE.30.3.CO. Biomedical waste incinerators with a capacity of 200 lb per h must meet flue gas temperature limits (5 CCR 1001-8, Part B, Section V(D)(7)) [Citation Revised July 1997; Citation Revised May 1998; Revised March 2002].</p> <p>AE.30.4.CO. [Moved May 1998].</p>	<p>and the Hazardous Material and Waste Management Division.</p> <p>(NOTE: The following requirements apply to new or modified incinerators used for the disposal of medical waste that were constructed, reconstructed, or modified after 30 August 1989.)</p> <p>Verify that the flue gas temperature at the outlet of the final control device does not exceed 300 deg F.</p> <p>(NOTE: Exceptions can be made if the incinerator demonstrates that an equivalent collection of condensable heavy metals and toxic organics can be achieved at a higher temperature or through the use of alternate technologies.)</p> <p>(NOTE: Moved to AE.32.1.CO. and AE.34.1.CO. May 1998.)</p>

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<p>MEDICAL WASTE INCINERATORS</p> <p>AE.32. Monitoring</p> <p>AE.32.1.CO. Biomedical waste incinerators with a capacity of 200 lb per h must meet monitoring requirements (5 CCR 1001-8, Part B, Section V(F) [Citation Revised July 1997; Citation Revised May 1998; Revised March 2002].</p>	<p>Verify that biomedical waste incinerators monitor CO and O₂ emissions.</p> <p>Verify that biomedical waste incinerators install and operate devices that continuously record the temperature of gases leaving the primary and secondary (or final) combustion chambers.</p> <p>Verify that these devices have accuracy either of +/- 0.75 percent of the temperature being measured in degrees Celsius or of +/- 2.5 deg C, whichever is greater.</p> <p>Verify that sensors used in this recording are located so that flames from the burners do not impinge on the sensors.</p> <p>(NOTE: The following requirements apply to new or modified incinerators used for the disposal of medical waste that were constructed, reconstructed, or modified after 30 August 1989.)</p>

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MEDICAL WASTE INCINERATORS AE.34. Reporting/Recordkeeping Requirements AE.34.1.CO. Biomedical waste incinerators with a capacity of 200 lb per h must meet reporting and recordkeeping requirements (5 CCR 1001-8, Part B, Section V(G) [Citation Revised July 1997; Citation Revised AE.30.4.CO May 1998; Revised March 2002]).	<p>Verify that records of daily burning rates and hours of operation are kept for at least 2 yr.</p> <p>Verify that biomedical waste incinerators maintain a monthly file of daily burning rates and hours of operation.</p> <p>Verify that these files are retained for 2 yr following the date of the files.</p> <p>Verify that monitored emission findings are submitted on a quarterly basis and retained for at least 2 yr.</p> <p>Verify that, upon any failure of or damage to the incinerators, the Division is contacted by phone within 2 h into the next working day.</p> <p>Verify that, upon any failure of or damage to the incinerators, the Division is notified in writing.</p> <p>(NOTE: The following requirements apply to new or modified incinerators used for the disposal of medical waste that were constructed, reconstructed, or modified after 30 August 1989.)</p>

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<p>AE.35.</p> <p>MUNICIPAL WASTE COMBUSTORS</p> <p>AE.35.1.CO. Municipal waste combustors charging over 50 tons per day must comply with specific emission standards (5 CCR 1001-8, Part B, Section VI(C)(1)) [Citation Revised July 1997; Revised May 1998].</p> <p>AE.35.2.CO. Municipal waste combustors charging less than 40 tons per day must comply with specific emission standards (5 CCR 1001-8, Part B, Section VI(C)(1)) [Citation Revised July 1997; Revised May 1998].</p>	<p>(NOTE: This section applies to any facility or equipment constructed, reconstructed, or modified after 30 August 1989, that burns or is designed to burn municipal solid waste. This section also applies to any facility or equipment, designed to burn Refuse Derived Fuel (RDF) either in combination with other fuels or as an only fuel constructed, reconstructed or modified after 30 August 1989 (5 CCR 1001-8, Part B, Section VI(A)) [Added May 1998].)</p> <p>Verify that particulate emissions do not exceed 0.015 gr/dry scf corrected to 7 percent O₂.</p> <p>Verify that hydrochloric acid (HCl) emissions meet one of the following standards, whichever is less stringent:</p> <ul style="list-style-type: none"> - 50 ppmv, hourly average, corrected to 7 percent O₂ on a dry basis - reduced 90 percent by weight. <p>Verify that SO₂ emissions meet one of the following standards, whichever is less:</p> <ul style="list-style-type: none"> - 30 ppmv as an hourly average, corrected to 7 percent O₂ on a dry basis - reduced 80 percent by weight or volume on a 24-h geometric average. <p>Verify that CO emissions meet the following standards: 100 ppmv as a 4-day running daily average and 400 ppmv as an 8-h running hourly average, corrected to 7 percent O₂ on a dry basis.</p> <p>Verify that NO_x emissions do not exceed 300 ppmv as a daily average, corrected to 7 percent O₂ on a dry basis.</p> <p>Verify that the opacity of visible emissions is less than 10 percent.</p> <p>(NOTE: See applicability note in AE.35.1.CO.)</p> <p>(NOTE: The following requirements apply to sources charging 40 tons/day or less excluding sources that charge less than 10 tons/day and serving a municipality or county with a population less than 2500 (see AE.35.8.CO).)</p> <p>Verify that particulate emissions do not exceed 0.1 gr/dry scf corrected to 7 percent O₂ (not including condensable particulate matter).</p> <p>Verify that hydrochloric acid (HCl) emissions meet one of the following</p>

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<p>AE.35.3.CO [Deleted May 1998].</p> <p>AE.35.4.CO. Municipal waste combustors must meet specific operating requirements (5 CCR 1001-8, Part B, Section VI(D)) [Revised July 1997; Citation Revised May 1998].</p>	<p>standards, whichever is less stringent:</p> <ul style="list-style-type: none"> - 50 ppmv, hourly average, corrected to 7 percent O₂ on a dry basis - reduced 50 percent by weight. <p>Verify that CO emissions do not exceed 100 ppmv as an 8-h running hourly average, corrected to 7 percent O₂ on a dry basis.</p> <p>Verify that the opacity of visible emissions is less than 10 percent.</p> <p>(NOTE: See applicability note in AE.35.1.CO.)</p> <p>Verify that the combustor maintains the combustion gases at a temperature more than 1800 deg F for at least 1 s residence time.</p> <p>Verify that the unit is equipped with automatically controlled auxiliary fuel burners to maintain the combustion gases at 1800 deg F under all waste firing conditions.</p> <p>Verify that combustion efficiency is at least 99.9 percent as an 8-h running daily average.</p> <p>Verify that the tipping area and the municipal solid waste storage area is totally enclosed and operated at a negative atmospheric pressure to prevent the escape of malodors.</p> <p>Verify that air drawn from tipping or storage areas is used as primary combustion air in the combustor.</p> <p>Verify that the ash is loaded in an enclosed area or handled wet in closed containers.</p> <p>Verify that the waste charging is stopped when the following conditions exist:</p> <ul style="list-style-type: none"> - the combustor temperature drops below 1600 deg F for a 15-min period - the combustion efficiency drops below 99.5 percent for a 15-min period - for units charging more than 50 tons per day, when the flue gas O₂ level drops below 3 percent (wet basis) for a 15-min period - for units charging more than 50 tons per day, when the opacity of the visible emissions is equal to or more than 10 percent for a period of 6 min or longer. <p>Verify that warning systems are installed and operated to provide notice of</p>

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<p>AE.35.5.CO. [Deleted May 1998].</p>	<p>temperature drop or reduced O₂ and combustion efficiency levels for any source charging more than 50 tons/day.</p>
<p>AE.35.6.CO. Municipal waste combustor operators must monitor and record specific emission and operating parameters (5 CCR 1001-8, Part B, Section VI(E)) [Citation Revised July 1997; Revised May 1998].</p>	<p>(NOTE: See applicability note in AE.35.1.CO.)</p> <p>Verify that the combustion chamber temperature is monitored in the following ways:</p> <ul style="list-style-type: none"> - the temperature monitoring instrument is located to demonstrate compliance with the temperature requirements listed above - verification that the lower temperature at the alternate location corresponds to the required operating temperature of 1800 deg F is demonstrated during source testing. <p>Verify that, for sources charging 10 tons/day or more, CO₂, CO, and O₂ monitors are co-located upstream of the air pollution control devices.</p>
<p>AE.35.7.CO. Municipal waste combustors must keep and submit records of the operations (5 CCR 1001-8, Part B, Section VI(H)) [Revised July 1997; Citation Revised May 1998].</p>	<p>(NOTE: See applicability note in AE.35.1.CO.)</p> <p>Verify that records of monthly summary files of daily fuel firing and hours of operation are kept for at least 2 yr.</p> <p>Verify that submissions of continuous emissions recordings are sent to the Division quarterly and kept for at least 2 yr.</p> <p>Verify that the combustor notifies the Division of any failures or damaged equipment within 2 h into the next working day followed by written notice to the Division outlining corrective action.</p>
<p>AE.35.8.CO. Certain municipal waste combustors charging less than 10 tons per day must comply with specific emission standards (5 CCR 1001-8, Part B, Section VI(C)(2)) [Added May 1998].</p>	<p>(NOTE: See applicability note in AE.35.1.CO.)</p> <p>(NOTE: The following requirements apply to municipal waste combustors charging less than 10 tons/day and located within and serving a municipality or county with a population less than 2500.)</p> <p>Verify that particulate emissions do not exceed 0.1gr/dry scf, corrected to 7 percent O₂ (not including condensable particulate matter).</p>

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	<p>Verify that hydrochloric acid (HCl) emissions meet one of the following standards, whichever is less stringent:</p> <ul style="list-style-type: none"> - 50 ppmv, corrected to 7 percent O₂ on a dry basis - reduced 50 percent by weight. <p>Verify that carbon monoxide (CO) emissions, as measured at a location upstream of the control device and corrected to 7 percent O₂ on a dry basis, do not exceed 100 PPMV as a 8-h running average.</p> <p>Verify that the opacity of visible emissions is less than 10 percent.</p>

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<p>AE.55.</p> <p>GASOLINE/FUELS</p> <p>AE.55.1.CO. Gasoline dispensing facilities must meet general requirements for storing and transferring petroleum liquid (5 CCR 1001-9, Section VI(A)) [Citation Revised July 1997; Citation Revised May 1998].</p> <p>AE.55.2.CO. Gasoline dispensing facilities must meet the requirements of the Oxygenated Gasoline Program in the appropriate control areas (5 CCR 1001-16, Section II(A), (B), and (C)(1), (2) and (3) and Section III(J)) [Citation Revised July 1997; Revised May 1998; Revised April 2000; Revised March 2001; Revised March 2002; Revised March 2004; Revised March 2010].</p>	<p>Verify that the gasoline dispensing facility does not operate any rotating pump or compressor that handles any type of petroleum liquid that is not equipped with mechanical seals or other equipment of equal efficiency.</p> <p>Verify that any reciprocating-type pumps or compressors are equipped with packing glands.</p> <p>Verify that packing glands are installed, operated, and maintained properly, so that no detectable emissions occur from the drain recovery systems.</p> <p>(NOTE: The Oxygenated Gasoline Program control area consists of the Denver-Boulder control area, which includes the Adams, Arapahoe, Boulder, Denver, Douglas, and Jefferson Counties. The control period for each control area is from 1 November through 7 February. During the control period, the maximum allowable oxygenate blending period for the Denver-Boulder control area is 8 November through 31 January.)</p> <p>(NOTE: Effective 1 November 2004, the control period for each control area will be changed to 1 November through 31 January. Effective 1 November 2013, the control period for each control area will be changed to 1 November through 7 February.)</p> <p>Verify that, during the control period, no class A motor fuel is supplied or sold by any person intended as a final product for fueling of motor vehicles within the oxygenated gasoline Denver-Boulder program area, or sold at retail, or sold to a private fleet for consumption, or introduced into a motor vehicle in the oxygenated gasoline program area by any person unless the fuel has the following oxygen content:</p> <ul style="list-style-type: none"> - effective November 1, 2004, the minimum oxygen content by weight is at least 1.9 percent from November 1 through the end of the Oxygenated Gasoline Control Period - effective November 1, 2005, the minimum oxygen content by weight is at least 1.5 percent from November 1 through the end of the Oxygenated Gasoline Control Period - effective November 1, 2012, the minimum oxygen content by weight is at least 1.7 percent from November 1 through the end of the Oxygenated Gasoline Control Period - effective November 1, 2019, the minimum oxygen content by weight is at least 2.7 percent from November 1 through the end of the Oxygenated Gasoline Control Period. The average oxygen content by weight is at least

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	<p>3.1 percent from November 1 through February 7.</p> <p>(NOTE: This Section is a state only regulation, and is not included in the State Implementation Plan.)</p> <p>(NOTE: Oxygenated gasoline containing 10 percent by volume denatured ethanol is considered equivalent to 3.5 percent oxygen content by weight.)</p> <p>Verify that all oxygenated gasoline is labeled at the pump stand during the control periods in an Oxygenated Gasoline Program Area with the following:</p> <p style="text-align: center;">THE GASOLINE DISPENSED FROM THIS PUMP IS OXYGENATED AND WILL REDUCE CARBON MONOXIDE POLLUTION FROM MOTOR VEHICLES.</p> <p>Verify that these labels are clearly readable in 20 point bold face type and are affixed to the upper one half of the dispenser.</p> <p>(NOTE: Effective February 1, 2011, the Oxygenated Gasoline Program will be repealed.)</p>

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<p>AE.60.</p> <p>PRINTING PRESSES AND GRAPHIC ARTS</p> <p>AE.60.1.CO. Graphic arts equipment must meet specific requirements to control emissions of VOCs (5 CCR 1001-9, Section XIII (B)) [Citation Revised July 1997; Citation Revised May 1998; Citation Revised March 2009; Citation Revised March 2010].</p>	<p>(NOTE: These requirements apply to packaging rotogravure, publication rotogravure, or flexographic printing facilities whose potential emissions of VOCs before control are equal to or more than 90,000 kg/yr (100 tons/yr).</p> <p>Verify that none of the covered facilities are operated unless one of the following conditions is met:</p> <ul style="list-style-type: none"> - the volatile fraction of ink, as it is applied to the substrate, contains 25.0 percent or less (by volume) of VOCs and 75.0 percent or more (by volume) of water - the ink (minus water) as it is applied to the substrate, contains 60.0 percent or more (by volume) nonvolatile material - the graphic arts operation installs and operates a proper control device and capture system - a combination of solvent-borne inks and low solvent inks that achieve a 70 percent (volume) overall reduction of solvent usage (compared to all solvent-borne ink usage) is used - flexographic and packaging rotogravure printing facilities limit emissions to 0.5 lb of VOCs per pound of solids in the ink - crossline averaging is used. <p>Verify that a capture system is used in conjunction with the emission control system specified above.</p> <p>Verify that the capture system is consistent with good engineering practice, and in conjunction with control equipment provides for an overall reduction in VOC emissions of at least:</p> <ul style="list-style-type: none"> - 75 percent where a publication rotogravure process is employed - 65 percent where a packaging rotogravure process is employed - 60 percent where a flexographic printing process is employed. <p>Verify that the design, operation, and efficiency of any capture system used in conjunction with any emission control system is certified in writing and is approved by the Division.</p>

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AE.65. FUGITIVE EMISSIONS AE.65.1.CO. The emission of fugitive particulate emissions into the atmosphere must be minimized (5 CCR 1001-3, Section III(D)(1)(a) and (b)) [Citation Revised July 1997; Citation Revised May 1998]. AE.65.2.CO. Emissions of fugitive particulate from unpaved roadways must be minimized (5 CCR 1001-3, Section III(D)(2)(a)(i)) [Citation Revised July 1997; Citation Revised May 1998]. AE.65.3.CO. Emissions of fugitive particulate from construction activities must be minimized (5 CCR 1001-3, Section III(D)(2)(b)) [Citation Revised July 1997; Citation Revised May 1998]. AE.65.4.CO. Emissions of fugitive particulate during the	<p>Verify that all practical methods are used that are technologically feasible and economically reasonable and which reduce, prevent, and control emissions so as to facilitate the achievement of the maximum practical degree of air purity in every portion of the state.</p> <p>Verify that a source required to have a permit has submitted to the Division a fugitive particulate emissions control plan.</p> <p>Verify that the plan has been approved.</p> <p>Verify that the plan requirements are followed.</p> <p>Verify that all available, practical methods that are technologically feasible and economically reasonable to minimize emissions are used in the following instances:</p> <ul style="list-style-type: none"> - in attainment areas, on unpaved roadways whose vehicle traffic exceeds an averaged 200 vehicles per day - in nonattainment areas, on unpaved roadways whose vehicle traffic exceeds an averaged 150 vehicles per day. <p>(NOTE: Averages are taken over a three-day period. Also, methods include but are not limited to watering, chemical stabilization, road carpeting, paving, suggested speed restrictions, and other techniques approved by the Division.)</p> <p>Verify that emissions from unpaved roadways do not exceed the provisions of the nuisance emission limitation guideline.</p> <p>Verify that all available and practical methods that are technologically feasible and economically reasonable are used in order to minimize fugitive particulate emissions from the clearing of an area of land greater than 5 acres in attainment areas or 1 acre in nonattainment areas.</p> <p>Verify that all available and practical methods that are technologically feasible and economically reasonable are used in order to minimize fugitive particulate</p>

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<p>storing and handling of materials must be minimized (5 CCR 1001-3, Section III(D)(2)(c)) [Citation Revised July 1997; Citation Revised May 1998].</p> <p>AE.65.5.CO. Emissions of fugitive particulate from haul trucks and haul roads must be minimized (5 CCR 1001-3, Section III(D)(2)(e) and (f)) [Citation Revised July 1997; Citation Revised May 1998; Revised March 2010].</p> <p>AE.65.6.CO. Emissions of fugitive particulate from demolition activities, blasting activities, and sandblasting operations must be minimized (5 CCR 1001-3, Section III(D)(2)(h), (i), (j)) [Citation Revised July 1997; Citation Revised May 1998; Revised March 2010].</p>	<p>emissions.</p> <p>(NOTE: These requirements apply to a haul road that has a vehicle traffic exceeding 40 haul vehicles or 200 total vehicles per day (averaged over any consecutive 3-day period).)</p> <p>Verify that all available and practical methods that are technologically feasible and economically reasonable are used in order to minimize fugitive particulate emissions from haul trucks and haul roads.</p> <p>(NOTE: Control measures or operation procedures may include but are not necessarily limited to, covering the materials, washing or otherwise treating loaded haul trucks to remove materials from the exterior of the vehicle prior to transporting materials, limiting load size, wetting the load and other methods or techniques approved by the Division.)</p> <p>Verify that all available and practical methods that are technologically feasible and economically reasonable are used in order to minimize fugitive particulate emissions from demolition activities in nonattainment areas.</p> <p>Verify that all available and practical methods that are technologically feasible and economically reasonable are used in order to minimize fugitive particulate emissions from blasting and sandblasting activities in attainment and nonattainment areas.</p>

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<p align="center">REGULATORY REQUIREMENTS:</p>	<p align="center">REVIEWER CHECKS: March 2010</p>
<p>DRY CLEANING OPERATIONS</p> <p>AE.75. Perchloroethylene</p> <p>AE.75.1.CO. [Deleted March 1999]</p>	<p>(NOTE: Regulation reserved.)</p>

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CFCS AND HALONS AE.95. Recordkeeping AE.95.1.CO. Registration requirements for stationary appliances and refrigerated food appliances must be met (5 CCR 1001-19, Part B, Section III.A, B and D) [Added March 1999; Revised March 2009]. AE.95.2.CO. Notification and reporting requirements must be met for stationary appliances and air conditioning and refrigeration service facilities (5 CCR 1001-19, Part B, Section IV) [Added March 1999; Revised March 2009].	<p>Verify that owners of any existing stationary appliance submit an ozone depleting compound refrigerant registration form within 60 days of 1 November of each year.</p> <p>Verify that new stationary appliances submit an ozone depleting compound refrigerant registration form within 30 days of installation.</p> <p>Verify that any site containing existing refrigerated food appliances which contain 300 lbs or greater of any ozone depleting compound refrigerant (based upon the estimated refrigerant charge) submit an ozone depleting compound refrigerant registration form and fee to the Division within 60 days of 1 November of each year.</p> <p>Verify that any site containing new refrigerated food appliances which contain 300 lbs or greater of any ozone depleting compound refrigerant (based upon the estimated refrigerant charge) submit an ozone depleting compound refrigerant registration form and fee to the Division within 30 days of installation.</p> <p>Verify that proof of current registration is available for inspection by the Division or its agent.</p> <p>Verify that air conditioning and refrigeration service facilities and all persons engaged in recycling/recovery of ozone depleting compound refrigerant on a contract basis notify the Division by submitting a notification form (provided by the Division).</p> <p>(NOTE: A notification will be submitted for each air conditioning and refrigeration facility that operates at one or more sites.)</p> <p>Verify that all new air conditioning and refrigeration service facilities submit a notification to the Division within 30 days of commencement of operations.</p> <p>Verify that all air conditioning and refrigeration service facilities required to submit notification renew the notification annually within 60 days of April 1.</p> <p>(NOTE: This section may not be construed to require any individual technician to pay a fee or to notify the Division if such individual is employed by an air conditioning and refrigeration service facility that has complied with the requirements of this section and that has accounted for that individual.)</p>

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AE.95.3.CO. Motor vehicle air conditioning service facilities must meet recordkeeping requirements (5 CCR 1001-19, Part B, Section V) [Added March 1999; Citation Revised March 2009].	<p>Verify that motor vehicle air conditioning service facilities maintain records of motor vehicle air conditioning service and/or invoices and leak checks for a minimum of 1 yr, and make the records available for inspection.</p> <p>Verify that motor vehicle air conditioning service facilities that utilize recovery only methods, document the handling and disposition of all ozone depleting compound refrigerants removed from motor vehicles.</p> <p>Verify that salvage facilities that conduct or contract the recycling or recovery of ozone depleting compounds document the handling and disposition of all ozone depleting compound refrigerant removed from all salvaged motor vehicles.</p> <p>Verify that motor vehicle air conditioning service facilities conduct leak checks on all motor vehicle air conditioners before ozone depleting compound refrigerants are added to any motor vehicle air conditioners.</p>

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AE.100. COATING OPERATIONS AE.100.1.CO. [Deleted March 2005].	(NOTE: 5 CCR 1001-9, Section IX.A.7 is applicable to specific types of industrial coating operations that are not covered in this Supplement.)

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<p>DEGREASING OPERATIONS</p> <p>AE.115. General</p> <p>AE.115.1.CO. Specific requirements must be met for the control of nonconveyorized vapor degreasers (5 CCR 1001-9, Section X(C)) [Citation Revised July 1997; Citation Revised May 1998].</p>	<p>Verify that all non-conveyorized vapor degreasers have covers that are designed and operated so that they can be easily opened and closed through the use of mechanical assists.</p> <p>Verify that the opening and closing of covers do not disturb the vapor zone.</p> <p>Verify that the following 2 types of switches are installed on all non-conveyorized vapor degreasers:</p> <ul style="list-style-type: none"> - condenser flow switch and thermostat shuts off sump heat if the condenser coolant is either not circulating or is too warm - spray safety switch that shuts off spray pump if the vapor level drops more than 4 in. <p>Verify that, for non-conveyorized vapor degreasers with an open area (with the cover open) of 1 m² (10.8 ft²) or less:</p> <ul style="list-style-type: none"> - the freeboard ratio is greater than or equal to 0.75 - one of the following control systems is used: <ul style="list-style-type: none"> - a refrigerated chiller with a cooling capacity equivalent to or greater than the applicable specifications - an enclosed design in which the cover(s) or door(s) opens only when a dry part is entering or exiting the degreaser - a carbon adsorption system with ventilation greater than or equal to 15 m³/min/m² (50 cfm/ft²) or air/vapor area, exhausting less than 25 ppmv of solvent averaged over the complete adsorption cycle. <p>Verify that a permanent, clearly visible sign that lists all operating requirements is mounted on or next to each degreaser.</p> <p>Verify that covers are closed at all times except when processing workloads into or out of the degreasers.</p> <p>Verify that the following operations are performed to minimize solvent carry-out:</p> <ul style="list-style-type: none"> - racking parts to allow full drainage - moving parts as slowly as is practicable in and out of the degreasers, which is a maximum of 1 ft every 5 s by hand, or a maximum of 5.5 cm/s (10.8 ft/min) for a mechanically operated system - allowing the workload to clean in the vapor zone at least 30 s or until condensation ceases - tipping out any pools of solvent that remain on the cleaned parts before

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<p>AE.115.2.CO. Specific requirements must be met for the control of emissions from conveyorized degreasers (5 CCR 1001-9, Section X(D)) [Citation Revised July 1997; Citation Revised May 1998].</p>	<p>removal from the vapor zone</p> <ul style="list-style-type: none"> - allowing parts to dry within the degreasers at least 15 s and/or until visually dry. <p>Verify that solvents are not used to clean porous or absorbent materials like cloth, leather, wood, rope, etc.</p> <p>Verify that workloads do not occupy more than half of the degreaser's open top area.</p> <p>Verify that spraying is not done above the vapor level.</p> <p>Verify that solvent leaks are repaired immediately.</p> <p>Verify that leaky degreasers that are not repaired immediately are shut down.</p> <p>Verify that the exhaust ventilation does not exceed $20 \text{ m}^3/\text{min}/\text{m}^2$ ($65.6 \text{ cfm}/\text{ft}^2$) of degreaser open area, unless greater exhaust rates are necessary to meet Occupational Safety and Health Administration (OSHA) requirements.</p> <p>Verify that ventilation fans are not used near the degreaser opening, unless necessary to meet OSHA requirements.</p> <p>Verify that the water separator functions so that no visible water is present in the solvent exiting the separator.</p> <p>Verify that any conveyorized degreasers whose solvent surface is greater than 2 m^2 (21.5 ft^2) are controlled by at least one of the following:</p> <ul style="list-style-type: none"> - a carbon adsorption system, with ventilation greater or equal to $15 \text{ m}^3/\text{min}/\text{m}^2$ ($49.2 \text{ cfm}/\text{ft}^2$) of air/vapor interface for vapor degreasers (of air/liquid interface for nonvapor types) when down-time covers are open, and exhausting less than 25 ppm of solvent (by volume) averaged over a complete adsorption cycle - for vapor degreasers only, a refrigerated chiller with a cooling capacity equivalent to or greater than the applicable specifications in Appendix 1-8. <p>Verify that a drying tunnel, tumbling basket(s), or other effective method(s) is used to prevent cleaned parts from carrying out solvent liquid or vapor.</p> <p>Verify that the following 2 switch-circuits (or equivalent) are installed in conveyorized degreasers:</p> <ul style="list-style-type: none"> - a spray safety switch that shuts off the spray pump and/or the conveyor if the vapor level drops more than 4 in. - a vapor level control thermostat that shuts off sump heat when the vapor level rises too high.

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	<p>Verify that all conveyORIZED degreasers have a condenser thermostat and flow-detector switch (or equivalent) that shuts off sump heat if coolant is too warm or is not circulating.</p> <p>Verify that entrance and exit openings are minimized by silhouetting work loads so that the average clearance between parts (or parts-and the edge of the degreaser opening) is either less than 10 cm (4 in.) or less than 10 percent of the width of the opening.</p> <p>Verify that each conveyORIZED degreaser is provided with covers to close off all the entrances and exits when the conveyor is not in use.</p> <p>Verify that a permanent, clearly visible sign that lists all operating requirements is mounted on or next to each conveyORIZED degreaser.</p> <p>Verify that exhaust ventilation does not exceed 20 m²/min/m² (65.6 cfm/ft²) of degreaser opening, unless necessary to meet OSHA requirements.</p> <p>Verify that work place fans are not located near or directed at degreaser openings, unless necessary to meet OSHA requirements.</p> <p>Verify that carry-out emissions are minimized by the following methods:</p> <ul style="list-style-type: none"> - racking parts so that best drainage is achieved - maintaining the vertical component of conveyor speed at less than 3.3 m/min (10.8 ft/min). <p>Verify that solvent leaks are immediately repaired.</p> <p>Verify that any conveyORIZED degreasers with leaks that are not immediately repaired are shut down.</p> <p>Verify that the water separator functions with an efficiency sufficient to prevent water from being visible in the solvent exiting the separator.</p> <p>Verify that down-time covers are placed over entrances and exits of conveyORIZED degreasers immediately after the conveyor and exhaust are shut down.</p> <p>Verify that covers are retained in this position until immediately before startup.</p>

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DEGREASING OPERATIONS AE.116. Cold Cleaning AE.116.1.CO. Specific requirements must be met for the control of emissions from solvent cold-cleaners (5 CCR 1001-9, Section X(B)) [Citation Revised July 1997; Citation Revised May 1998; Citation Revised March 2009].	<p>Verify that all cold-cleaners have properly fitting covers.</p> <p>Verify that these covers are operable with one hand under the following conditions:</p> <ul style="list-style-type: none"> - solvent true vapor pressure is greater than 15 torr (0.3 psia) at 38 deg C (100 deg F) - the solvent is agitated by an agitating mechanism - solvent is heated. <p>Verify that all cold-cleaners have a drainage facility that captures the drained liquid solvent from the cleaned parts.</p> <p>Verify that, for cold-cleaners using solvent that has a vapor pressure greater than 32 torr (0.62 psia) measured at 38 deg C (100 deg F), one of the following requirements is met:</p> <ul style="list-style-type: none"> - there is an internal drainage facility within the confines of the cold-cleaner, so that parts are enclosed under the (closed) cover to drain after cleaning - there is an enclosed, external drainage facility that captures the drained solvent liquid from the cleaned parts. <p>Verify that a permanent, clearly visible sign, which lists operating requirements, is mounted on or next to each cold-cleaner.</p> <p>Verify that solvent spray apparatus does not have a splashing, fine atomizing, or shower type action.</p> <p>Verify that solvent spray apparatus produces a solid cohesive stream.</p> <p>Verify that, for solvents with a true vapor pressure above 32 torr (0.62 psia) at 38 deg C (100 deg F), one of the following techniques is used:</p> <ul style="list-style-type: none"> - a freeboard ratio greater than or equal to 0.7 - a water or nonvolatile liquid cover that is not soluble in the solvent, nor denser than the solvent, and the depth of the cover liquid is sufficient to prevent the escape of solvent vapors. <p>Verify that cold-cleaner covers are closed whenever parts are not being handled within the cleaner confines.</p>

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	Verify that parts are drained for at least 15 s and/or until dripping ceases. Verify that any pools of solvent are tipped out on the clean part back into the tank.

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<p>AE.120.</p> <p>OIL/WATER SEPARATORS</p> <p>AE.120.1.CO. Oil/water separators at a petroleum refinery must meet specific requirements (5 CCR 1001-9, Section VIII(A)) [Citation Revised July 1997; Citation Revised May 1998].</p>	<p>Verify that owners or operators of any wastewater (oil/water) separators at a petroleum refinery meet the following requirements:</p> <ul style="list-style-type: none"> - equip the forebays and separator sections of the wastewater separators with one or more of the following emission control devices, ensuring that such device is properly installed, in good working order and properly maintained: <ul style="list-style-type: none"> - a solid cover with all openings sealed and the liquid contents totally enclosed - a pontoon-type or double-deck type floating roof, or internal floating cover - a vapor recovery system consisting of a vapor gathering device capable of collecting the volatile organic compound vapors discharged and a vapor disposal device capable of processing such volatile organic vapors so as to prevent their emission into the atmosphere - equip all openings in covers, separators, and forebays with lids or seals such that the lids or seals are in the closed position at all times except when in actual use.

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AE.125. MISCELLANEOUS VOC OPERATIONS AE.125.1.CO. Existing sources of VOCs must meet general emission limitations (5 CCR 1001-9, Section II.C) [Citation Revised July 1997; Citation Revised May 1998].	<p>(NOTE: The following organic compounds, having negligible photochemical reactivity, are exempt from these requirements:</p> <ul style="list-style-type: none"> - methane - ethane - 1,1,1-trichloroethane (methyl chloroform) - methylene chloride (dichloromethane) - 1,1,1-trichloro-2,2,2-trifluoroethane (CFC-113) - trichlorofluoromethane (freon-11) - dichlorodifluoromethane (freon-12) - chlorodifluoromethane (freon-22) - trifluoromethane (CFC-23) - 1,2-dichloro 1,1,2,2-tetrafluoroethane (CFC-114) - chloropentafluoroethane (CFC-115) - 1,1,1-trifluoro 2,2-dichloroethane (HCFC-123) - 1,1,1,2-tetrafluoroethane (HFC-134A) - 1,1-dichloro 1-fluoroethane (HCFC-141B) - 1-chloro 1,1-difluoroethane (HCFC-142B) - 2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124) - pentafluoroethane (HFC-125) - 1,1,2,2-tetrafluoroethane (HFC-134) - 1,1,1-trifluoroethane (HFC-143A) - 1,1-difluoroethane (HFC-152A) - perfluorocarbon compounds in these categories: <ul style="list-style-type: none"> - cyclic, branched, or linear completely fluorinated alkanes - cyclic, branched, or linear completely fluorinated ethers with no unsaturations - cyclic, branched, or linear completely fluorinated - tertiary amines with no unsaturations - sulfur containing perfluorocarbons with no unsaturation and with sulfur bonds only to carbon and fluorine (5 CCR 1001-7, Section II.B.)). <p>Verify that an existing source which is not subject to specific emission limitations and which has the potential to emit 100 or more tons/yr of VOCs is utilizing controls that represent RACT.</p> <p>(NOTE: This requirement applies only in nonattainment regions for ozone.)</p> <p>(NOTE: See AE.125.1.CO. for exempt organic compounds.)</p> <p>Verify that new sources utilize controls that represent RACT.</p>
AE.125.2.CO. New sources of VOCs must meet general emission limitations (5 CCR 1001-9, Section II.C) [Citation Revised July 1997;	

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Citation Revised May 1998]. AE.125.3.CO. Volatile organic compounds must meet disposal requirements (5 CCR 1001-9, Section V(A)) [Citation Revised July 1997; Citation Revised May 1998; Citation Revised March 2009; Citation Revised March 2010]. AE.125.4.CO. [Moved May 1998].	(NOTE: This requirement applies only in nonattainment regions for ozone.) (NOTE: See AE.125.1.CO. for exempt organic compounds.) Verify that volatile organic compounds are not disposed of by evaporation or spillage, unless RACT is used. (NOTE: Moved to AE.100.1.CO May 1998.)

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<p>AE.130.3.CO. Significant users of prescribed fires must have a fire permit (5 CCR 1001-11, Section V.A. and B., and VII.A., B., and E) [Added April 2003; Revised March 2005; Revised March 2010].</p>	<p>Verify that for burns of piled material, all piles are reasonably dry and free of dirt.</p> <p>Verify that the open burn is supervised by a responsible person who has available the means to suppress the burn if the fire does not comply with the terms and conditions of the permit.</p> <p>Verify that the burn is conducted on the date or period specified in the permit.</p> <p>Verify that all conditions specified on the permit are met.</p> <p>Verify that the permittee maintains at the burn site the original or a copy of the permit that can be made available without unreasonable delay to the inspector.</p> <p>Verify that the permittee notifies the appropriate local agencies as required by local regulations or ordinances.</p> <p>Verify that a planned prescribed fire that exceeds the de minimus emission and smoke levels calculated pursuant to Appendix 1-11 has a planned ignition fire permit.</p> <p>Verify that the conditions of the permit are met.</p> <p>(NOTE: Wildfires do not require a permit if the land manager undertakes appropriate suppression activities. Significant users of prescribed fire may apply for an unplanned ignition permit.)</p> <p>Verify that significant users of prescribed fire as a grassland or forest management tool submit a planning document for review and comment.</p>
<p>AE.130.4.CO. Unplanned ignition fires may be conducted under an unplanned ignition fire permit (5 CCR 1001-11, Section VI.A, B, and D) [Added March 2005; Revised March 2010].</p>	<p>(NOTE: Any person may apply for an unplanned ignition fire permit that allows the use of fire for grassland or forestland management although the applicant did not plan the specific time and location of the ignition. Wildfires do not require a permit if the land manager undertakes appropriate suppression activities.)</p> <p>Verify that applications for unplanned ignition fire permits are submitted to the Division for each area for which a permit is sought</p> <p>Verify that, if any unplanned ignition fires are conducted under the permit, the application plan and map are followed.</p> <p>Verify that the burn is conducted so as to minimize the impacts of the fire on visibility and on public health and welfare and all conditions of the permit.</p> <p>Verify that the applicant promptly initiates suppression action if the fire fails to comply with the permit terms or other activities to ensure that the fire remains</p>

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<p>AE.130.5.CO. The burning of rubbish, wastepaper, wood or other flammable material on any open premises, or on any public street, alley, or other land adjacent to such premises must have a open burning permit (5 CCR1001-3, Section II.C) [Added March 2005; Revised March 2008; Citation Revised March 2010].</p>	<p>within the terms of the permit.</p> <p>Verify that the applicant evaluates the fire with appropriate resources to determine whether the fire remains within the permit terms.</p> <p>(NOTE: Appropriate evaluations may include daily monitoring and appropriate modeling to determine whether the fire will cause a violation of any ambient air quality standard or will cause unacceptable impacts to human health or welfare, visibility or the environment.)</p> <p>Verify that no person burns or allows the burning of rubbish, wastepaper, wood or other flammable material on any open premises, or on any public street, alley, or other land adjacent to such premises, without obtaining an open burning permit from the Division.</p> <p>(NOTE: The following sources are exempted from obtaining open. burning permits:</p> <ul style="list-style-type: none"> - the non-commercial burning of private household trash in PM attainment areas unless local ordinances or rules prohibit such burning - fires used for non-commercial cooking of food for human beings or recreational purposes - fires used for instructional or training purposes, except instructional or training wildland pile or broadcast fires larger than the de minimus thresholds of a low smoke impact burn (training or instructional fires will comply with all applicable federal, state and local laws including the demolition notification requirements for intentional structural fires) - flares used to indicate some danger to the public - the open burning of cover vegetation for the purpose of preparing the soil for crop production, weed control, and other agricultural cultivation purposes -- noncommercial burning of trash in the unincorporated areas of counties of less than 25,000 population according to the latest federal census provided such open burning is subject to regulations of the board of county commissioners for such county adopted by resolution and such regulations include, among other things, permit provisions and prohibit any such burning that would result in the exceedance of any NAAQS.) <p>(NOTE: The open burning of animal parts or carcasses is not included in the exemption. Except that, if the State Agricultural commission declares a public health emergency or a contagious or infectious disease outbreak that imperils the livestock of the state that requires the burning of diseased animal carcasses after providing telephone notice to the division and the relevant local health department office by leaving a voice mail message. All necessary safeguards shall be utilized during such non-permitted open burning to minimize any public health or welfare impacts. In addition, the owner or operator shall take steps to ensure that all surrounding and potentially impacted residents, businesses, schools and churches are notified prior to beginning the open burn.)</p>

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AE.130.6.CO. The use of smoke or obscurants at Fort Carson must meet management and emission requirements (5 CCR 1001-3, Section II.D) [Added March 2008].	<p>(NOTE: The open burning may be required to meet the requirements of any applicable federal, state or local requirements concerning disposal of waste materials.)</p>
	<p>(NOTE: This checklist item is repeated at AE.155.5.CO.)</p>
	<p>(NOTE: Emissions associated with the generation of smoke and obscurants on Fort Carson and Pinon Canyon Maneuver Site (thereafter referred to as Fort Carson) by United States military forces, or allied forces in a combined training exercise with the United States, are exempt from the opacity limits specified in Regulation No. 1, sections II. and III. (see AE.9.3.CO. and AE.9.4.CO.) provided that all of the conditions of this checklist item are met.)</p>
	<p>Verify that all participants in training follow all applicable Department of Defense training manuals and guidance regarding Department of Defense-approved smokes and obscurants.</p>
	<p>Verify that no off-property transport of visible emissions from any smoke or obscurants used on Fort Carson occurs.</p>
	<p>Verify that smoke or obscurants generation ceases immediately in the event that any such visible emissions cross or has a reasonable probability of crossing the installation property boundary.</p>
	<p>Verify that the commander in charge of any training involving smoke or obscurants ensures the following precautionary measures are implemented.</p>
	<p>Verify that, when planning and conducting training, prevailing meteorological conditions are analyzed, both before and on the day of training, to determine if they meet established training criteria for the use of smoke or obscurants and to allow that visible emissions do not cross or does not have a reasonable probability of crossing the installation property boundary.</p>
	<p>Verify that, if the meteorological conditions do not meet the above criteria, then smoke or obscurants are not employed.</p>
	<p>Verify that, prior to using smoke or obscurants, the training site and the training mission are inspected and validated.</p>
	<p>Verify that, upon initiation of smoke or obscurant generation, the initial smoke or obscurant plume is observed to verify that it conforms to established training criteria and to allow visible emissions do not cross or does not have a reasonable probability of crossing the installation property boundary.</p>
	<p>Verify that, if the wind direction and speed is not favorable for the exercise, then the location is adjusted or the smoke mission is postponed or canceled.</p>

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	<p>Verify that one or more trained smoke observers are posted to provide direct observation of the smoke/obscurant plume at all times while smoke or obscurants are used during the training.</p> <p>Verify that smoke observers remain alert for visible smoke that has a reasonable probability of drifting across the installation property boundary, in which case the smoke observer immediately halts smoke generation operations.</p> <p>Verify that the smoke observer(s) maintain capability for immediate communication with the officer commanding the use of smoke or obscurants used in the training exercise.</p> <p>Verify that units conducting training using smoke or obscurants on Fort Carson perform necessary checks with Fort Carson range division to assure immediate communication capability, including capability to request or obtain meteorological updates.</p> <p>Verify that, in the event of failure to maintain communication capability, the training exercise is halted.</p> <p>(NOTE: The Fort Carson installation commander is responsible to ensure compliance with this section by all personnel employing smoke or obscurants at Fort Carson.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
AE.135 VEHICLE EMISSIONS AE.135.1.CO. [Deleted March 2010]. AE.135.2.CO. [Deleted May 1998]. AE.135.3.CO. Federal facilities must meet inspection requirements for motor vehicles (5 CCR 1001-13, Part A, Section I.C.3 and 5) [Citation Revised July 1997; Revised May 1998; Revised March 2002; Revised March 2004; Revised March 2006].	<p>(NOTE: 5 CCR 1001-12 incorporates by reference the provisions of 40 CFR, Part 93, Conformity To State Or Federal Implementation Plans Of Transportation Plans, Programs, And Projects Developed, Funded Or Approved Under Title 23 U.S.C Or The Federal Transit Laws as amended through 73 Federal Register 4439, January 24, 2008. Materials incorporated by reference do not include later amendments.)</p> <p>[Content combined with AE.135.1.CO.]</p> <p>(NOTE: Beginning January 1, 2007, the AIR Program will no longer apply in El Paso, Larimer, and Weld County portions of the program area.)</p> <p>Verify that, for 1982 and newer model vehicles, a biennial vehicle inspection schedule is established and an annual schedule is established for 1981 and older model vehicles.</p> <p>(NOTE: A certification of emissions control which has been issued for any motor vehicle which is registered as a collector's item and which is of model year 1960 or later is valid until such motor vehicle is sold or transferred.)</p> <p>(NOTE: New motor vehicles will be issued a Verification of Emissions Test exemption windshield sticker at the time of sale which is valid for up to 4 years.)</p> <p>Verify that Federal installations declare all Federal employee-owned vehicles operated on the installation and demonstrate that these vehicles have complied with the periodic inspection requirements when up-dating inspection report to the Department of Revenue AIR Program section.</p> <p>(NOTE: Tactical military vehicles, leased or owned by the Federal government, are not required to be inspected.)</p> <p>Verify that fleets of twenty or more eligible vehicles are inspected and obtain a Certification of Emissions Control.</p> <p>(NOTE: New motor vehicles may be issued a Verification of Emissions Test exemption windshield sticker, at the time of sale or lease, that is valid for 4 yr. It is the responsibility of the dealer to obtain the sticker. The exemption is not automatic, and is not in force without the sticker.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.135.4.CO. Fleets in the diesel fleet self-certification program must have a compliance plan (5 CCR 1001-15, Part A, Sections I.C.2, II.A.1 and II.B) [Citation Revised July 1997; Revised May 1998; Revised March 2010].</p>	<p>(NOTE: Heavy-duty diesel vehicles of 14,000 pounds Gross Vehicle Weight Rating, identified as a fleet (9 or more vehicles) and registered or required to be registered or routinely operated in the program area or principally operated from a terminal, maintenance facility, branch, or division located within the program area are required to participate in the diesel fleet self-certification program.)</p> <p>(NOTE: The AIR program area is described in Appendix 1-9.)</p> <p>Verify that fleets participating in the diesel fleet self-certification program submit the following to the Department:</p> <ul style="list-style-type: none"> - initial compliance plan - an annual updated/revised compliance plan and fleet vehicle inventory - changes in fleet size or compliance coordinator, within 30 days of the change. <p>Verify that all new employees or newly reassigned employees who work in the maintenance or operation of diesel vehicles are provided the most current information regarding this regulation and the fleet's compliance plan within 30 days.</p> <p>Verify that updated information is provided to all employees regarding this regulation within 30 days of any substantial change to this regulation and/or the compliance plan.</p>
<p>AE.135.5.CO. Fleets in the diesel fleet self-certification program must meet recordkeeping requirements (5 CCR 1001-15, Part A, Section V.B) [Citation Revised July 1997; Citation Revised May 1998].</p>	<p>(NOTE: See AE.135.4.CO for applicability.)</p> <p>Verify that test results of opacity inspections are kept by the fleets and are available to the Division.</p> <p>Verify that copies of the test data are submitted to the Division annually by 31 December of each year.</p>
<p>AE.135.6.CO. Fleets in the diesel fleet self-certification program must meet inspection requirements (5 CCR 1001-15, Part A, I.D.3, IV.A, IV.C, and VIII) [Citation Revised July 1997; Revised May 1998; Revised March 2006; Citation Revised March</p>	<p>(NOTE: See AE.135.4.CO for applicability.)</p> <p>Verify that the smoke opacity standard for all diesel vehicles subject to opacity tests under the diesel fleet self-certification program are 35 percent and 20 percent for naturally aspirated and turbocharged diesel vehicles respectively for 5 seconds.</p> <p>Verify that fleets use one of the following opacity test procedures:</p> <ul style="list-style-type: none"> - on-road acceleration test

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
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2010].	<ul style="list-style-type: none"> - on-road brake lug-down test - stall test (vehicles with automatic transmission) - dynamometer test. <p>Verify that fleets use one of the following opacity evaluation methods:</p> <ul style="list-style-type: none"> - visual evaluation by means of a trained and certified observer positioned in a location perpendicular to the exhaust plume and at a distance which will provide a clear view of the exhaust plume - opacity meter evaluation by means of a portable full-flow light extinction opacity meter attached to the exhaust piping and calibrated as specified by the manufacturer. <p>(NOTE: Any new heavy-duty diesel sold on or after August 6, 2003 is exempt from testing until such vehicle its forth model year, or until the date of the transfer of ownership prior to the expiration of such exemption, if such transfer is within 12 months before such exemption ends.)</p>
AE.135.7.CO. Specific diesel-fueled motor vehicles must have a certification of emissions compliance (5 CCR 1001-15, Part B, Section I.D) [Citation Revised July 1997; Revised May 1998].	<p>(NOTE: See AE.135.4.CO for applicability.)</p> <p>Verify that diesel-fueled motor vehicles owned by the United States government, State of Colorado, and local governments within the AIR Program area, except those subject to fleet self-certification have a valid certification of emissions control.</p>
AE.135.8.CO. [Deleted May 1998].	<p>[Diesel inspection requirements repealed].</p>
AE.135.9.CO. [Deleted March 2010].	<p>(NOTE: 5 CCR 1001-17 repealed.)</p>
AE.135.10.CO. [Deleted March 2010].	<p>(NOTE: 5 CCR 1001-21 repealed.)</p>
AE.135.11.CO. [Deleted March 2010].	<p>(NOTE: 5 CCR 1001-21 repealed.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
AE.135.12.CO. [Deleted March 2010].	(NOTE: 5 CCR 1001-21 repealed.)

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.140.</p> <p>MOBILE SOURCES</p> <p>AE.140.1.CO. Diesel-powered locomotives must meet emission standards (5 CCR 1001-3, Section II.B).[Citation Revised July 1997; Citation Revised May 1998].</p>	<p>Verify that diesel-powered locomotives do not emit any air pollutant in excess of the following:</p> <ul style="list-style-type: none"> - 20 percent opacity while being operated below an altitude of 6000 ft above mean sea level - 30 percent opacity while being operated over an altitude of 6000 ft above mean sea level. <p>(NOTE: The following are exempt from the opacity level occurs:</p> <ul style="list-style-type: none"> - cold engine startup of a diesel-powered locomotive may exceed the limit up to 30 min after starting while in a stationary position - when the locomotive is being tested, adjusted, rebuilt, or repaired, nonconsecutive periods of 3 min with an aggregate of 10 min or less in 60 consecutive minutes may exceed the limit - when the locomotive is accelerated after standing still, it may exceed the limit for up to 4 min.)

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.145</p> <p>ASPHALT PAVING MATERIALS/ OPERATIONS</p> <p>AE.145.1.CO. Specific requirements must be met during the use of cutback asphalt (5 CCR 1001-9, Section XI) [Citation Revised July 1997; Citation Revised May 1998].</p>	<p>Verify that there is no stockpiling of aggregate mixed with cutback asphalt between 1 March and 30 September, unless it can be demonstrated to the Division that this storage is necessary.</p> <p>Verify that there is no use of cutback asphalt between 1 March and 30 September, unless one of the following conditions is met:</p> <ul style="list-style-type: none"> - it is used solely as a penetrating prime coat - the facility can demonstrate to the Division that under the conditions of its intended use, there are no emissions of VOCs to the ambient air. <p>Verify that during the mo of March through September, records are kept of the use or storage of any cutback asphalt, including the type and amount of solvents used.</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
AE.155 OTHER EMISSIONS/ SOURCES AE.155.1.CO. [Deleted May 1998]. AE.155.2.CO. All street sanding material, whether new or recycled, must meet specific standards (5 CCR 1001-18, Section I.C.1 and Section II.C.2. and II.C.3) [Citation Revised July 1997; Citation Revised May 1998; Revised March 2002]. AE.155.3.CO. Testing of street sanding material must comply with specific criteria (5 CCR 1001-18, Section I.D.1 and 3) [Citation Revised July 1997; Citation Revised May 1998]. AE.155.4.CO. Users of recycled street sanding materials must meet certain requirements (5 CCR 1001-18, Section I.E.2 and II.D.1) [Citation Revised July 1997;	 [Regulation repealed] Verify that the street sanding material equal or exceed either of the following standards: <ul style="list-style-type: none"> - less than 2 percent fines and less than 45 percent durability index - less than 4 percent fines, less than 33 percent durability index, and a high degree of angularity exhibited by the majority of the grains. Verify that each user achieves, unless otherwise provided for by the CDOT or the City or County of Denver, a 30 percent reduction of uncontrolled levels of wintertime street sand and paved road dust emissions on roadways within their jurisdiction in the PM10 attainment/maintenance area, excepting those roadways within the foothills area. Verify that each user achieves a 20 percent reduction from uncontrolled levels of wintertime street sand and paved road dust emissions on those roadways within the foothills area of their jurisdiction. Verify that street sanding materials are tested according to the following: <ul style="list-style-type: none"> - the percent fines - the durability index - the high degree of angularity exhibited by the majority of the grains. Verify that the test are performed by an independent laboratory to determine the percent fines index on all recycled materials at least once for the first 250 tons of recycled material used each winter and at least once for every 500 tons of recycled material thereafter. Verify that users of recycled street sanding materials submit copies of the results of the test conducted within 30 days of the tests to the Division. Verify that no later than 30 June of each year, users of street sanding material submit a report containing information for the preceding 12 mo on:

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>Citation Revised May 1998; Revised March 2002].</p> <p>AE.155.5.CO. The use of smoke or obscurants at Fort Carson must meet management and emission requirements (5 CCR 1001-3, Section II.D) [Added March 1999; Revised March 2006].</p>	<ul style="list-style-type: none"> - the total amount of sanding material (both new and recycled) and salt or other deicing chemicals used - the number of the lane miles typically sanded during each full deployment - the number of full deployment episodes - the percent of the sanded roadways swept within 4 days of a sanding event - the type of street sweeping equipment used. <p>Verify that with 7 calendar days of awarding a contract to a supplier, the user notifies the Division of the supplier's name and the location of the aggregate pit(s) from which the material will be supplied.</p> <p>Verify that reports are maintained for a period of 3 yr.</p> <p>Verify that entities with roadways in the foothills area provide one report containing the information for roadways in the foothills area and the other for roadways within the remainder of their jurisdiction.</p> <p>(NOTE: The calculation of the percent reduction from uncontrolled levels of wintertime street sand and paved road dust emissions is based on the reduction in street sand from the base sanding amount, the percent of roadways swept within 4 days of a sanding event, and the latest data on the emission benefits of street sanding materials, de-icing agents, and street sweeping equipment, which is consistent with the methodology used for the 2001 PM10 maintenance plan.</p> <p>(NOTE: This checklist item is repeated at AE.130.6.CO.)</p> <p>(NOTE: Emissions associated with the generation of smoke and obscurants on Fort Carson and Pinon Canyon Maneuver Site (thereafter referred to as Fort Carson) by United States military forces, or allied forces in a combined training exercise with the United States, are exempt from the opacity limits specified in Regulation No. 1, sections II. and III. (see AE.9.3.CO. and AE.9.4.CO.) provided that all of the conditions of this checklist item are met.)</p> <p>Verify that all participants in training follow all applicable Department of Defense training manuals and guidance regarding Department of Defense-approved smokes and obscurants.</p> <p>Verify that no off-property transport of visible emissions from any smoke or obscurants used on Fort Carson occurs.</p> <p>Verify that smoke or obscurants generation ceases immediately in the event that any such visible emissions cross or has a reasonable probability of crossing the installation property boundary.</p> <p>Verify that the commander in charge of any training involving smoke or obscurants ensures the following precautionary measures are implemented.</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.155.6.CO. Housed commercial swine feeding operations must meet permit</p>	<p>Verify that, when planning and conducting training, prevailing meteorological conditions are analyzed, both before and on the day of training, to determine if they meet established training criteria for the use of smoke or obscurants and to allow that visible emissions do not cross or does not have a reasonable probability of crossing the installation property boundary.</p> <p>Verify that, if the meteorological conditions do not meet the above criteria, then smoke or obscurants are not employed.</p> <p>Verify that, prior to using smoke or obscurants, the training site and the training mission are inspected and validated.</p> <p>Verify that, upon initiation of smoke or obscurant generation, the initial smoke or obscurant plume is observed to verify that it conforms to established training criteria and to allow visible emissions do not cross or does not have a reasonable probability of crossing the installation property boundary.</p> <p>Verify that, if the wind direction and speed is not favorable for the exercise, then the location is adjusted or the smoke mission is postponed or canceled.</p> <p>Verify that one or more trained smoke observers are posted to provide direct observation of the smoke/obscurant plume at all times while smoke or obscurants are used during the training.</p> <p>Verify that smoke observers remain alert for visible smoke that has a reasonable probability of drifting across the installation property boundary, in which case the smoke observer immediately halts smoke generation operations.</p> <p>Verify that the smoke observer(s) maintain capability for immediate communication with the officer commanding the use of smoke or obscurants used in the training exercise.</p> <p>Verify that units conducting training using smoke or obscurants on Fort Carson perform necessary checks with Fort Carson range division to assure immediate communication capability, including capability to request or obtain meteorological updates.</p> <p>Verify that, in the event of failure to maintain communication capability, the training exercise is halted.</p> <p>(NOTE: The Fort Carson installation commander is responsible to ensure compliance with this section by all personnel employing smoke or obscurants at Fort Carson.)</p> <p>(NOTE: These provisions apply statewide, to new, expanded, and existing housed commercial swine feeding operations.)</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>requirements (5 CCR 1001-4 Pt.B, VI (A)(1) through (3)) [Added March 1999; Citation Revised March 2008].</p>	<p>Verify that no existing housed commercial swine feeding is operated unless a complete and accurate application for a permit to operate was submitted to the Division by 15 April 1999.</p> <p>(NOTE: The permit to operate application will include an odor management plan that demonstrates the housed commercial swine feeding operation is in compliance with the requirements of this regulation.)</p> <p>Verify that no one commences construction, expansion, reconstruction, or modification of a housed commercial swine feeding operation without obtaining or having a valid permit to operate from the Division for the housed commercial swine feeding operation.</p> <p>(NOTE: Any permit which has been issued pursuant to a prior regulation of the Commission, with respect to a project or the operation thereof, will continue in full force and effect for the purpose for which it was originally issued, unless this current regulation no longer requires such permit, in which case the permit can be rescinded by the Division upon request of the owner or operator of the permitted source.)</p>
<p>AE.155.7.CO. Housed commercial swine feeding operations must meet odor control requirements (5 CCR 1001-4 Pt. B, III) [Added March 1999; Revised March 2008; Revised March 2009].</p>	<p>(NOTE: See AE.155.6.CO. for applicability.)</p> <p>Verify that all housed commercial swine feeding operations manage odor emissions from all aspects of the operations so that odor emissions from the operations are not detected at or beyond the property boundary after the odorous air has been diluted with seven or more volumes of odor free air.</p> <p>Verify that all housed commercial swine feeding operations manage odor emissions from all aspects of the operations so that odor emissions from the operations are not detected at any off-site receptor after the odorous air has been diluted with 2 or more volumes of odor free air.</p> <p>Verify that 2 odor measurements are made within a period of 1 hour, separated by at least 15 minutes, at the receptor or the property line of the property from which the emission originates.</p>
<p>AE.155.8.CO. Federal land management agencies must submit emission inventories (5 CCR 1001-5, Part D, Section XIV.G.1.A and XIV.G.3.b) [Added April 2003; Citation Revised March 2010].</p>	<p>(NOTE: For the purposes of XIV.G., Federal land management agency means a Federal agency that owns and manages at least 50,000 acres of federal land in Colorado.)</p> <p>Verify that Federal land management agencies submitted emission inventories to the Commission by 31December 2001 and no less frequently than every 5 years thereafter.</p> <p>Verify that the inventory includes the sources and emissions of criteria pollutants,</p>

COMPLIANCE CATEGORY: AIR EMISSIONS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.155.9.CO. Colorado public land management agencies must submit emission inventories (5 CCR 1001-5, Part D, Section XI.G.2.A and XI.G.3.b) [Added April 2003; Citation Revised March 2010].</p>	<p>including surrogates or precursors for such pollutants, from activities in Colorado or other states that may affect any mandatory class I Federal area in Colorado by reducing visibility in such area.</p> <p>Verify that the inventory includes both current emissions and projected future emissions, over at least a 5-year period.</p> <p>Verify that the following sources on public lands are included in the inventory:</p> <ul style="list-style-type: none"> - stationary source emissions, based on existing air pollution emission notices filed with the division - mobile sources utilizing state lands, excluding state and federal highways - paved and unpaved roads - fires on public lands from all sources - biogenic sources, including emissions from flora and fauna. <p>Verify that all state land management agencies including the State Land Board, the Department of Agriculture, and the Department of Natural Resources submitted emission inventories by 1 July 2002 and no less frequently than every 5 years thereafter.</p> <p>Verify that the inventory includes the sources and emissions of criteria pollutants, including surrogates or precursors for such pollutants, from activities in Colorado or other states that may affect any mandatory class I Federal area in Colorado by reducing visibility in such area.</p> <p>Verify that the inventory includes both current emissions and projected future emissions, over at least a 5-year period.</p> <p>Verify that the following sources on public lands are included in the inventory:</p> <ul style="list-style-type: none"> - stationary source emissions, based on existing air pollution emission notices filed with the division - mobile sources utilizing state lands, excluding state and federal highways - paved and unpaved roads - fires on public lands from all sources - biogenic sources, including emissions from flora and fauna.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>AE.160.</p> <p>COUNTY/CITY SPECIFIC REQUIREMENTS</p> <p>AE.160.1.CO. Stationary sources in the Denver PM₁₀ nonattainment area must meet restrictions on the use of oil as a backup fuel (5 CCR 1001-3, Section VIII) [Added May 1998; Revised March 2002].</p> <p>AE.160.2.CO. Wood burning appliances in specific counties must not be operated during a high pollution day (5 CCR 1001-6, Section VII) [Citation Revised July 1997; Revised May 1998; Revised March 2007].</p>	<p>(NOTE: This requirement is applicable to all points at the following stationary sources in the Denver PM₁₀ nonattainment area that use oil as a backup fuel for natural gas, which is the primary process fuel:</p> <ul style="list-style-type: none"> - Public Service Company of Colorado, Zuni Electric Generating Station - Public Service Company of Colorado, Valmont Electric Generating Station - Public Service Company of Colorado, Delgany Steam Generating Station - University of Colorado Health Sciences Center (Fitzsimmons) - US Department of Energy, Rocky Flats Plant - Gates Rubber Company - Trigen-Colorado Energy, Golden, CO.) <p>Verify that natural gas is the only fuel used from 1 November to 1 March of each year, except under the following circumstances:</p> <ul style="list-style-type: none"> - the supplier of transporter or natural gas imposes a curtailment or an interruption of service - for necessary testing of equipment used to operate the unit on oil, testing of fuel and training of personnel - when an equipment malfunction at the facility makes it impossible or unsafe for the unit to operate on natural gas. <p>Verify that covered stationary sources submit a report to the Division by 1 April of each year which includes the following information:</p> <ul style="list-style-type: none"> - dates and number of hours fuel oil is burned - percent sulfur analysis of the fuel oil that is burned - number of gallons burned each day - reason(s) for the use of the fuel oil. <p>Verify that the stationary source maintains the report records for a period of 2 yr.</p> <p>(NOTE: The following requirement only applies in those portions of the counties of Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson which are located in the AIR program area (as defined in Section 42-4-307(8), C.R.S.) but not including those areas above 7000 ft elevation. The requirement does not apply within any municipality which had an ordinance mandating restricted use of wood burning stoves, pellet stoves, masonry heaters and fireplaces on high pollution days.)</p> <p>(NOTE: The following are exempt from this requirement:</p>

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	<ul style="list-style-type: none"> - wood burning stoves, pellet stoves, masonry heaters and wood-burning fireplaces used as a primary source of heat - EPA Phase II certified wood burning stoves - approved pellet-burning fireplace insert - approved masonry heaters.) <p>Verify that wood burning appliance are not operated during a high pollution day unless the appliance is exempted above.</p> <p>(NOTE: A burn-down time shall be allowed for the burn-down of existing fires prior to the initiation of enforcement action. The use of any fuel other than clean, dry, untreated wood in any wood-burning appliance shall not constitute grounds for allowing its usage on a high pollution day.)</p>

Appendix 1-1

PSD Area Classifications

(Source: 5 CCR 1001-5, Part D, Section VIII)

[Citation Revised July 1997; Revised May 1998; Revised March 2009; Citation Revised March 2010]

- A. The following areas in Colorado are Class I areas and may not be redesignated:
1. National Parks
 - a. Rocky Mountain
 - b. Mesa Verde
 2. National Wilderness Areas
 - a. Black Canyon of the Gunnison
 - b. Eagle's Nest
 - c. Flattops
 - d. Great Sand Dunes
 - e. La Garita
 - f. Maroon Bells -- Snowmass
 - g. Mount Zirkel
 - h. Rawah
 - i. Weminuche
 - j. West Elk
- B. All other areas of Colorado, unless otherwise specified by Act of Congress or the Colorado legislature, or the Commission pursuant to Section IX. are designated Class II; provided, however that in the following areas as they existed on August 7, 1977 (maps available from the Division), the increase allowed in sulfur dioxide concentrations over the baseline concentration shall be the same as the increase established by Section 163(b) of the Federal Act for Class I areas, except that such allowable increases may not be allowed if a Federal Land Manager should make an adverse impact determination under Section XIII.C. with which the Division concurs and except that such allowable increases, may be exceeded by compliance with the provisions of Sections XIII.D., XIII.E., or XIII.F.:
1. National Monuments
 - a. Florissant Fossil Beds
 - b. Colorado
 - c. Dinosaur
 - d. Great Sand Dunes (those portions not included as National Wilderness Areas in Section V. A.2.)
 2. Forest Service Primitive Areas
 - a. Uncompahgre Mountain
 - b. Wilson Mountain
 3. Lands administered by the Federal Bureau of Land Management in the Gunnison Gorge Recreation Area as of October 27, 1977. All areas designated Class II under this section may be redesignated as provided in Section IX of this part.
 4. National Parks
Black Canyon of the Gunnison (those portions not included as National Wilderness Areas)
- C. The following areas may be redesignated only as Class I or II.
1. An area which, exceeds 10,000 acres in size and is a national monument, a national primitive area, a national preserve, a national recreational area, a national wild and scenic river, a national wildlife refuge, a national lakeshore; and
 2. A national park or national wilderness area established after 7 August 1977, which exceeds 10,000 acres in size.
- D. The commission recognizes out of state Class I areas which have been listed in the Federal Register (44 FR 69124). Emissions from sources in Colorado must not violate any standard in these areas.

Appendix 1-2

Definition of Significant Rate of Emissions

(Source: 5 CCR 1001-5, Part A, I(B)(57))

[Citation Revised July 1997; Revised May 1998]

Unless the context otherwise requires, for purposes of the Colorado PSD program and for the purposes of 5 CCR 1001-5, Part B, Section IV(D)(2) (nonattainment requirements) of Regulation No. 3, a significant rate of emissions in tons per year (TPY), is defined as a value that would equal or exceed any of the following:

Pollutant	Significant Emission Rate, tons/yr	
CO	100	
NO _x	40	(NO + NO ₂)
SO ₂	40	
PM	25	tons/yr of PM emissions
	15	tons/yr of PM-10 emissions
PM ₁₀ Precursors in the Denver metro nonattainment area	40	tons/yr for each individual precursor (NO _x or SO ₂)
Ozone	40	tons/yr of VOCs
Lead	0.6	
Fluorides	3	
Sulfuric acid mist	7	
Hydrogen sulfide (H ₂ S)	10	
Total reduced sulfur (including H ₂ S)	10	
Reduced sulfur compounds (including H ₂ S)	10	
Municipal Waste Combustor Organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans)	3.2 x 10 ⁻⁶ megagrams/yr (3.5 x 10 ⁻⁶ tons/yr)	
Municipal Waste Combustor Metals (measured as particulate matter)	14 megagrams/yr (15 tons/yr)	
Municipal Waste Combustor Acid Gases	36 megagrams/yr (40 tons/yr)	

Appendix 1-3

APEN Exemptions

(5 CCR 1001-5, Part A, Section II.D.1)

[Citation Revised July 1997; Revised May 1998; Revised March 2007; Revised March 2009; Revised March 2010]

The following sources are exempt from the requirement to file Air Pollutant Emission Notices because by themselves, or cumulatively as a category, they are deemed to have a negligible impact on air quality.

Individual emission points in nonattainment areas having uncontrolled actual emissions of any criteria pollutant of less than 1 ton/yr, and individual emission points in attainment areas having uncontrolled actual emissions of any criteria pollutant of less than 2 tons/yr, and each individual emission point with uncontrolled actual emissions of lead less than 100 lb/yr, regardless of where the source is.

Individual emission points of noncriteria reportable pollutants having uncontrolled actual emissions less than the de minimis levels.

Air conditioning or ventilating systems not designed to remove air pollutants generated by or released from other processes or equipment.

Fireplaces used for recreational purposes, inside or outside.

Fires and equipment used for noncommercial cooking of food for human consumption, or cooking of food for human consumption at commercial food service establishments, except for charbroilers and wood fired equipment (but not including campfires) in PM₁₀ nonattainment areas. Charbroiler shall mean a cooking device in a commercial food service establishment, either gas fired or using charcoal or other fuel, upon which grease drips down upon an open flame, charcoal or embers.

Flares used to indicate danger to the public.

Agriculture operations normally conducted at the farm or ranch including, for example, cultivating and harvesting. This shall not include grain elevator operations, feed mill operations, or other post harvesting activities normally not conducted on the farm or ranch.

Emissions from, or construction, or alteration of residential structures, including all buildings or other structures used primarily as a place of residence, and including home heating devices.

Laboratories and research & development facilities:

- a. noncommercial (in-house) experimental and analytical laboratory equipment which is bench scale in nature including quality control/quality assurance laboratories, process support laboratories, environmental laboratories supporting a manufacturing or industrial facility, and research and development laboratories
- b. research and development activities that are of a small pilot scale and which process less than 10,000 lb of test material per year
- c. small pilot scale research and development projects less than 6 mo in duration with controlled actual emissions less than 500 lb of any criteria pollutant or 10 lbs of any noncriteria reportable pollutant.

Disturbance of surface areas for purposes of land development, which do not exceed 25 contiguous acres and which do not exceed 6 mo in duration. (This does not include mining operations or disturbance of contaminated soil.)

Each individual piece of fuel burning equipment, other than smokehouse generators and internal combustion engines, which uses gaseous fuel and which has a design rate less than or equal to 5 MBtu/h. (See definition of fuel burning equipment, Common Provisions Regulation).

Internal combustion engines powering portable drilling rigs.

Chemical storage tanks or containers that hold less than 500 gal and which have a daily throughput less than 25 gal.

Unpaved public and private roadways, except for haul roads located within a stationary source site boundary.

Sanding of streets and roads to abate traffic hazards caused by ice and snow.

Open burning activities, except that all reporting and permitting requirements that apply to such operations must be followed.

Brazing, soldering, or welding operations, except those, which use lead-based compounds. All welding that occurs strictly for maintenance purposes is exempt.

Street and parking lot striping.

Battery recharging areas.

Aerosol can usage.

Sawing operations, which are ancillary to facility operations and are not part of the production process

The process of demolition and re-bricking of furnaces and kilns. This does not include subsequent operation of such furnaces or kilns.

Road and lot paving operations at commercial and industrial facilities, except that asphalt and cement batch plants require APENs and permits, unless exempt under some other paragraph.

Adhesive use that is not related to production.

Fire training activities.

Caulking operations that are not part of a production process.

Landscaping and site housekeeping devices equal to or less than 10 hp in size (lawnmowers, trimmers, snow blowers, etc.).

Fugitive emissions from landscaping activities (e.g., weeding, sweeping).

Landscaping use of pesticides, fumigants, and herbicides.

Emergency events such as accidental fires.

Smoking rooms and areas.

Plastic pipe welding.

Vacuum cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes.

Beauty salons.

Acetylene, butane, and propane torches.

Pharmacies.

Chemical storage areas in which chemicals are stored in closed containers, and where total storage capacity does not exceed 5000 gal. This exemption applies solely to storage of such chemicals. This exemption does not apply to transfer of chemicals from, to, or between such containers.

Architectural painting and associated surface preparation (except for sandblasting and except for volatile organic compound emissions, associated with surface preparation, above APEN de minimis levels) for maintenance purposes at industrial or commercial facilities.

Emissions of air pollutants, which are not criteria or noncriteria reportable pollutants (see Sec I. B.38, Pt A).

Janitorial activities and products.

Groundskeeping activities and products.

Sources of odorous emissions which do not utilize emission control equipment for control of odorous emissions. This exemption applies to the odor emissions only. All other emissions are subject to other exemptions set forth in this regulation. This exemption does not exempt any source from the requirements of Regulation No. 2.

Truck and car wash units.

Office emissions, including cleaning, copying, and restrooms.

Electrically operated curing ovens, drying ovens and similar activities, articles, equipment or appurtenances. This exemption applies to the ovens only, and not to the items being dried in the ovens.

Equipment used exclusively for portable steam cleaning.

Blast-cleaning equipment using a suspension of abrasive in water and any exhaust system or collector serving them exclusively.

Commercial laundries (except dry cleaners) that do not burn liquid or solid fuel.

Storage of butane, propane, or liquefied petroleum gas in a vessel with a capacity of less than 60,000 gal, provided the requirements of Regulation No. 7, Section IV are met, when applicable.

Storage tanks of capacity < 40,000 gal of lubricating oils.

Venting of compressed natural gas, butane or propane gas cylinders, with a capacity of 1 gal or less.

Fuel storage and dispensing equipment in ozone attainment areas operated solely for company-owned vehicles where the daily fuel throughput is no more than 400 gal/day, averaged over a 30-day period.

Indirect sources are exempt until a permit regulation specific to indirect sources is promulgated by the Commission.

Storage tanks meeting both of the following criteria:

- a. annual throughput is less than 400,000 gal
- b. the liquid stored is one of the following:
 1. diesel fuels I-D, 2-D, or 4 - 6
 2. fuel oils #1 through #6
 3. gas turbine fuels 1-GT through 4-GT
 4. an oil/water mixture with a vapor pressure lower than that of diesel fuel (Reid vapor pressure of .025 psia).

Each individual piece of fuel burning equipment that uses gaseous fuel, has a design rate less than or equal to 10 MBtu/h, and is used solely for heating buildings for personal comfort.

Natural gas vehicle fleet fueling facilities.

Electric motors driving equipment at noncommercial machining shops.

Recreational swimming pools.

Forklifts.

Oil and gas exploration and production operations (well site and associated equipment) shall provide written notice of proposed drilling locations prior to commencement of such operations. APENs are not required until after exploration and/or production drilling, workovers, completions, and testing are finished. If production will result in reportable emissions, the owner or operator shall file an APEN with the Division within 30 days after the well completion or recompletion report and log is filed with the appropriate state or Federal agency. If production will not occur, or production will not result in reportable emissions, the owner or operator shall submit written notice to the Division indicating that the well was plugged or that emissions are otherwise not reportable.

Handling equipment and associated activities for glass that is destined for recycling.

Fugitive emissions of hazardous air pollutants which are natural constituents of native soils and rock (not added or concentrated by chemical or mechanical processes) from under ground mines or surface mines unless such source is a major source of hazardous air pollutants under Part C of the Regulation No. 3.

The use of pesticides, fumigants, and herbicides when used in accordance with requirements established under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as established by the EPA (7 U.S.C. Sec. 136 et seq.).

Ventilation of emissions from mobile sources operating within a tunnel, garage, or building.

Non asbestos demolition.

Sandblast equipment when the blast media is recycled and the blasted material is collected.

Nonroad engines as defined in 40 C.R.C. 89.2.

- (1) Except as discussed in paragraph (2) of this definition, a nonroad engine is any internal combustion engine:
 - (i) In or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or
 - (ii) In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
 - (iii) That, by itself or in or on a piece of equipment is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer or platform.
 - (iv) In or on a trailer or truck bed which powers light commercial equipment, such as generators, pumps and compressors.
 - (v) Less than or equal to 175 hp which operate less than 1,450 h per year.
 - (vi) Greater than 175 hp and less than or equal to 300 hp which operate less than 850 h per year.
 - (vii) Greater than 300 hp and less than or equal to 750 hp which operates less than 340 h per year.
- (2) An internal combustion engine is not a nonroad engine if:

- (I) The engine is used to propel a motor vehicle or a vehicle used solely for competition, or is subject to standards promulgated under Section 202 of the Act; or
- (ii) The engine is regulated by a federal New Source Performance Standard promulgated under Section 111 of the Act; or
- (iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive mo or a shorter period of time for an engine located as a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three mo (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location.

Emergency power generators which:

- (i) Have a rated Horsepower of less than 260; or
- (ii) Operate no more than 250 h per year and have a rated hp of less than 737; or
- (iii) Operate no more than 100 h per year and have a rated horsepower of less than 1840.

Surface water storage impoundment of not potable water and storm water evaporation ponds, except oil production wastewater (produced water tanks) containing equal to or more than one percent by volume crude oil on an annual average, and commercial facilities that accept oil production wastewater for processing.

Non-potable water pipeline vents.

Steam vents and safety release valves.

Deaerator/vacuum pump exhausts.

Seal and lubricating oil systems for steam turbine electric generators.

Venting of natural gas lines for safety purposes.

Chemical Storage Tanks

- (i) Sulfuric acid storage tanks not to exceed 10,500 gal capacity.
- (ii) Sodium hydroxide storage tanks.

Containers, reservoirs, or tanks used exclusively for dipping operations that contain no organic solvents for coating objects with oils, waxes, greases, or natural or synthetic resins.

Wet screening operations notwithstanding the applicability of the New Source Performance Standards included in the Code of Federal Regulations, Title 40, Part 60, Subpart ~~600~~

Nonroad engines as defined in section I.B.29. of this Part A, except certain nonroad engines subject to state-only air pollutant emission notice and permitting requirements pursuant to section I.B.29.c. of this Part.

Air Curtain Destructors burning only yard waste, wood waste, and clean lumber, or any mixture thereof generated as a result of projects to reduce the risk of wildfire and are not located at a commercial or industrial facility. Air curtain incinerators that are considered incinerators as defined by the Common Provisions do not meet this exemption.

Appendix 1-4

Construction Permit Exemptions

(5 CCR 1001-5, Part B, Section II.D)

[Citation Revised July 1997; Citation Revised May 1998; Revised March 2009]

The following sources are exempt because by themselves, or cumulatively as a category, they are deemed to have a negligible impact on air quality:

Those sources exempted from the filing of APENs in 5 CCR 1001-5, Part A, Section II.D. (see Appendix 1-3).

Containers, reservoirs, or tanks used exclusively for dipping operations for coating objects with oils, waxes, greases, or natural or synthetic resins containing no organic solvents.

Stationary Internal Combustion Engines which:

- a. power portable drilling rigs
- b. are emergency power generators, which operate no more than 250 h/yr
- c. have actual emissions less than 5 tons/yr or rated horsepower of less than 50.

The collection, transmission, liquid treatment, and solids treatment processes at domestic wastewater treatment works, or treatment facilities which treat only domestic type wastewater, except for combustion processes.

Each individual piece of fuel burning equipment, other than smokehouse generators, that uses gaseous fuel, and which has a design rate less than or equal to 10 MBtu/h.

Gasoline stations located in ozone attainment areas.

Surface mining activities, which mine 70,000 tons or fewer of product material per year. A fugitive dust control plan is required for such sources. Crushers, screens and other processing equipment activities are not included in this exemption.

Composting piles; however, all odor requirements of 5 CCR 1001-4, Reg. No. 2 must be met.

Commercial and product quality control laboratory equipment.

Fires and equipment used for noncommercial cooking of food for human consumption and for cooking of food for human consumption at commercial food service establishments.

Petroleum industry flares, not associated with refineries, combusting natural gas containing no hydrogen sulfide except in trace (less than five hundred parts per million weight) amounts, approved by the Colorado Oil and Gas Conservation commission and having uncontrolled emissions of any pollutant of less than five tons per year.

Crude oil truck loading equipment at exploration and production sites where the loading rate does not exceed 10,000 gallons of crude oil per day averaged on an annual basis. Condensate truck loading equipment at exploration and production sites that splash fill less than 6750 barrels of condensate per year or that submerge fill less than 16308 barrels of condensate per year. Crude oil or condensate loading truck equipment at crude oil production sites where the loading rate does not exceed 10,000 gallons per day averaged over any thirty-day period.

Oil production wastewater (produced water tanks), containing less than one percent by volume crude oil on an annual average, except for commercial facilities that accept oil production wastewater for processing.

Crude oil storage tanks with a capacity of 40,000 gallons or less.

Facilities located in a nonattainment area for any criteria pollutant with total facility uncontrolled actual emissions (total possible emissions at actual operating h), which are less than the following amounts:

- a. 2 tons per year volatile organic compounds
- b. 1 ton per year PM-10
- c. 5 tons per year total suspended particulate
- d. 5 tons per year CO
- e. 5 tons per year SO₂
- f. 5 tons per year NO_x
- g. 200 lb per year lead.

For purposes of calculating total facility uncontrolled actual emissions, only those individual (or grouped) emission points requiring APENs are to be considered.

Facilities located in attainment areas for all criteria pollutants with total facility uncontrolled actual emissions (total possible emissions at actual operating h), which are less than the following amounts:

- a. 5 tons per year volatile organic compounds
- b. 5 tons per year PM-10
- c. 10 tons per year total suspended particulate
- d. 10 tons per year CO
- e. 10 tons per year SO₂
- f. 10 tons per year NO_x
- g. 200 lb per year lead.

For purposes of calculating total facility uncontrolled actual emissions, only those individual (or grouped) emission points requiring APENs are to be considered.

Facilities that emit any other criteria pollutant that is not listed above (fluorides, sulfuric acid mist, hydrogen sulfide, total reduced sulfur, reduced sulfur compounds, and municipal water combustor emissions), with total facility uncontrolled actual emissions of such pollutants, which are less than 2 tons per year.

None of the exemptions listed above shall apply if a source would otherwise be subject to any specific federal or state applicable requirement, including, but not limited to, New Source Performance Standards, Regulation No. 7, Prevention of Significant Deterioration (Section IV.D.3., Part B), nonattainment New Source Review (NSR) requirements (Section IV.D.2.a. of Part B), Title III (including Federal NESHAPS), Title V, and Colorado MACT or GACT. (If the potential to emit, taking into account full design rate and continuous operation, triggers PSD or NSR requirements, the source must submit an APEN and apply for the appropriate permit, or must apply for a permit to limit the physical or operational capacity of the source such that the source is not considered to be a major source as defined in Section I.B.58 of this regulation, Part A.)

Notwithstanding the preceding paragraph, sources, which are subject solely to the following regulations, or to a combination of the regulations, may take the exemptions:

- a. sources subject to the general opacity standard contained in Regulation No. 1
- b. sources subject to the general fuel burning, manufacturing process, and fugitive particulate standards contained in Regulation No. 1 and Part B of Regulation No. 6
- c. sources subject solely to work practice standards of Regulation No. 7.
- d. sources subject to state-only NESHAPs in Regulation No. 8.

Appendix 1-5

Stationary Source Categories

(Source: 5 CCR 1001-5, Part C, Section II) [Added May 1998; Revised March 2010]

None of the following sources may be operated without a permit:

1. Any affected source;
2. Any major source; with the exception of those sources that would be major based only on TSP emissions;
3. Any source required to have a permit pursuant to the prevention of significant deterioration program of Part C, Title I of the federal act;
4. Any source required to have a permit pursuant to the program for the attainment and maintenance of national ambient air quality standards or Part D of Title I of the federal act; and
5. Any solid waste incineration unit that is a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public (including single residences, hotels, and motels). Such term does not include (1) incinerators or other units required to have a permit under 42 U.S.C. § 6925 of the Solid Waste Disposal Act, (2) materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals, (3) qualifying small power production facilities, as defined in 16 U.S.C. § 769 (17)(C), or qualifying cogeneration facilities, as defined in 16 U.S.C. § 796 (18)(B), of the Federal Power Act, which burn homogenous waste for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating, or cooling purposes, or (4) air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with any applicable opacity limitations. Operating permits for solid waste incineration units shall be obtained within 36 mo of promulgation of a new source performance standard applicable to such units, or by November 15, 1994, whichever is later.
6. Any source designated by the administrator and the commission as requiring an operating permit.
7. A source is not required to obtain an operating permit solely because it is subject to regulation or requirements pursuant to section 112 (r) of the federal act.

The following sources are exempt from the requirement to obtain an operating permit:

1. Sources subject to regulation or requirements pertaining to standards of performance for new residential wood heaters pursuant to Regulation No. 6; or
2. Sources subject to regulation or requirements pertaining to national emissions standards for hazardous air pollutants for asbestos in the course of demolition and renovation pursuant to Regulation No. 8.
3. Certain categories of sources and activities which are considered to be insignificant contributors to air pollution as listed below. A source solely comprised of one or more of these activities is not required to obtain an operating permit pursuant to this regulation, unless the source's emissions trigger the major source threshold as defined in section I. B.58, Part A of this Regulation No. 3 (Definition of "major source" for purposes of Part C):
 - a. Individual emission points in nonattainment areas having uncontrolled actual emissions of any criteria pollutant as defined in part a, section ii.B.9 Of this regulation no. 3 of less than one ton per year, and individual emission points in attainment areas having uncontrolled actual emissions of any criteria pollutant of less than two tons per year, and each individual emission point with uncontrolled actual emissions of lead less than 100 pounds per year, regardless of where the source is located.
 - b. Individual emission points of non-criteria reportable pollutants having uncontrolled actual emissions less than the de minimis levels as determined following the procedures set forth in Appendix A.
 - c. Air conditioning or ventilating systems not designed to remove air pollutants generated by or released from other processes or equipment.
 - d. Fireplaces used for recreational purposes, inside or outside.
 - e. fires and equipment used for noncommercial cooking of food for human consumption, or cooking of food for human consumption at commercial food service establishments, except for charbroilers and wood fired equipment (but not including campfires) in PM-10 nonattainment areas. Charbroiler shall mean a

- cooking device in a commercial food service establishment, either gas fired or using charcoal or other fuel, upon which grease drips down upon an open flame, charcoal or embers.
- f. Flares used to indicate danger to the public.
 - g. Agriculture operations normally conducted at the farm or ranch including, for example, cultivating and harvesting. This shall not include grain elevator operations, feed mill operations or other post-harvesting activities normally not conducted on the farm or ranch.
 - h. Emissions from, or construction, or alteration of residential structures, including all buildings or other structures used primarily as a place of residence, and including home heating devices.
 - I.
 - (a) noncommercial (in-house) experimental and analytical laboratory equipment which is bench scale in nature including quality control/quality assurance laboratories, process support laboratories, environmental laboratories supporting a manufacturing or industrial facility, and research and development laboratories.
 - * (b) Research and development activities which are of a small pilot scale and which process less than 10,000 pounds of test material per year;
 - * (c) small pilot scale research and development projects less than six mo in duration with controlled actual emissions less than 500 pounds of any criteria pollutant or 10 pounds of any non-criteria reportable pollutant.
 - * j. Disturbance of surface areas for purposes of land development, which do not exceed 25 contiguous acres and which do not exceed six mo in duration. (This does not include mining operations or disturbance of contaminated soil).
 - * k. Each individual piece of fuel burning equipment, other than smokehouse generators and internal combustion engines, which uses gaseous fuel, and which has a design rate less than or equal to 5 million Btu per hour. (See definition of fuel burning equipment, Common Provisions Regulation).
 - l. Internal combustion engines powering portable drilling rigs.
 - * m. Petroleum industry flares, not associated with refineries, combusting natural gas containing no H₂S except in trace (less than 500 ppmw) amounts, approved by the Colorado Oil and Gas Conservation Commission and having uncontrolled emissions of any pollutant of less than five tons per year.
 - * n. Chemical storage tanks or containers that hold less than 500 gallons, which have a daily throughput less than 25 gallons, and are not associated with either oil and gas production wastewater or commercial facilities that accept oil production wastewater for processing.
 - o. Unpaved public and private roadways, except for haul roads located within a stationary source site boundary.
 - p. Sanding of streets and roads to abate traffic hazards caused by ice and snow.
 - q. open burning activities, except that all reporting and permitting requirements that apply to such operations must be followed (see Regulation No. 1).
 - r. brazing, soldering, or welding operations, except those that use lead based compounds. All welding that occurs strictly for maintenance purposes is exempt.
 - s. Street and parking lot striping.
 - t. Battery recharging areas.
 - u. Aerosol can usage.
 - v. Sawing operations, which are ancillary to facility operations, and are not part of the production process.
 - w. The process of demolition and re-bricking of furnaces and kilns. This does not include subsequent operation of such furnaces or kilns.
 - x. Road and lot paving operations at commercial and industrial facilities, except that asphalt and cement batch plants require APENs and permits, unless exempt under some other paragraph.
 - y. Adhesive use, which is not related to production.
 - z. Fire training activities.
 - aa. Caulking operations, which are not part of a production process.
 - * bb. Landscaping and site housekeeping devices equal to or less than 10 H.P. in size (lawnmowers, trimmers, snow blowers, etc.).
 - cc. Fugitive emissions from landscaping activities (e.g., weeding, sweeping).
 - dd. Landscaping use of pesticides, fumigants, and herbicides.

- *ee. Crude oil or condensate loading truck equipment at crude oil production sites where the loading rate does not exceed 10,000 gallons per day averaged over any 30 day period.
- ff. Emergency events such as accidental fires.
- gg. Smoking rooms and areas.
- hh. Plastic pipe welding.
- ii. Vacuum cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes.
- jj. Beauty salons.
- kk. Operations involving acetylene, butane, propane and other flame cutting torches.
- ll. Pharmacies.
- *mm. Chemical storage areas where chemicals are stored in closed containers, and where total storage capacity does not exceed 5000 gallons. This exemption applies solely to storage of such chemicals. This exemption does not apply to transfer of chemicals from, to, or between such containers.
- nn. Architectural painting, roof coating material and associated surface preparation (except for sandblasting and except for volatile organic compound emissions, associated with surface preparation, above APEN de minimis levels) for maintenance purposes at industrial or commercial facilities.
- oo. Emissions of air pollutants, which are not criteria or non-criteria reportable pollutants (See Section I.B.38, Part A).
- pp. Janitorial activities and products.
- qq. Groundskeeping activities and products.
- rr. Sources of odorous emissions, which do not utilize emission control equipment for control of odorous emissions. This exemption applies to the odor emissions only. All other emissions are subject to other exemptions set forth in this regulation. This exemption does not exempt any source from the requirements of Regulation No. 2.
- ss. Truck and car wash units.
- tt. Office emissions, including cleaning, copying, and restrooms.
- *uu. Oil production wastewater (produced water tanks), containing less than 1 percent by volume crude oil, except for commercial facilities, which accept oil production wastewater for processing.
- vv. Electrically operated curing ovens, drying ovens and similar activities, articles, equipment, or appurtenances. This exemption applies to the ovens only, and not to the items being dried in the ovens.
- ww. Equipment used exclusively for portable steam cleaning.
- xx. Blast-cleaning equipment using a suspension of abrasive in water and any exhaust system or collector serving them exclusively.
- yy. Commercial laundries (except dry cleaners), which do not burn liquid or solid fuel.
- *zz. Storage of butane, propane, or liquefied petroleum gas in a vessel with a capacity of less than 60,000 gallons, provided the requirements of Regulation No. 7, Section IV are met, where applicable.
- aaa. Storage tanks of capacity <40,000 gallons of lubricating oils.
 - (i) Lubricating oil conditioning systems.
 - (ii) Waste lubricating oil storage tanks not larger than 40,000 gallons.
- *bbb. venting of compressed natural gas butane or propane gas cylinders, with a capacity of 1 gallon or less.
- *ccc. Fuel storage and dispensing equipment in ozone attainment areas operated solely for company-owned vehicles where the daily fuel throughput is no more than 400 gallons per day, averaged over a 30 day period.
- *ddd. Crude oil or condensate storage tanks with a capacity of 40,000 gallons or less.
- eee. Indirect sources are exempt until a permit regulation specific to indirect sources is promulgated by the Commission.
- *fff. Storage tanks meeting all of the following criteria:
 - (i) annual throughput is less than 400,000 gallons; and
 - (ii) the liquid stored is one of the following:
 - (A) diesel fuels I-D, 2-D, or 4 - 6;
 - (B) fuel oils #1 through #6;
 - (C) gas turbine fuels 1-GT through 4-GT;
 - (D) an oil/water mixture with a vapor pressure lower than that of diesel fuel (Reid vapor pressure of .025 PSIA).

- *ggg. Each individual piece of fuel burning equipment which uses gaseous fuel, and which has a design rate less than or equal to 10 million Btu per hour, and which is used solely for heating buildings for personal comfort.
- hhh. Natural gas vehicle fleet fueling facilities.
- iii. Electric motors driving equipment at non-commercial machining shops.
- jjj. Recreational swimming pools.
- kkk. Forklifts.
- lll. Handling equipment and associated activities for glass, which is destined for recycling.
- mmm. Containers, reservoirs, or tanks used exclusively for dipping operations for coating objects with oils, waxes, greases, or natural or synthetic resins containing no organic solvents.
- nnn. Stationary Internal Combustion Engines which:
 - (i) power portable drilling rigs; or
 - * (ii) are emergency power generators which have a rated horsepower of less than 260 or; operate no more than 250 h per year and have a rated horsepower of less than 737; or operate no more than 100 h per year and have a rated horsepower of less than 1840; or
 - * (iii) have actual emissions less than five tons per year or rated horsepower of less than 50.
- ooo. The collection, transmission, liquid treatment, and solids treatment processes at domestic wastewater treatment works, or treatment facilities which treat only domestic type wastewater, except for combustion processes.
- ppp. Gasoline stations located in ozone attainment areas.
- *qqq. Surface mining activities, which mine 70,000 tons or fewer of product material per year. A fugitive dust control plan is required for such sources. Crushers, screens and other processing equipment activities are not included in this exemption.
- rrr. Composting piles, however, all odor requirements of Regulation No. 2 must be met.
- sss. Fugitive emissions of hazardous air pollutants, which are natural constituents of native soils and rock (not added or concentrated by chemical or mechanical processes) from under ground mines or surface mines unless such source is a major source of hazardous air pollutants under Part C of this Regulation No. 3.
- ttt. The use of pesticides, fumigants, and herbicides when used in accordance with requirements established under the federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as established by the EPA (7 U.S.C. § 136 et seq.).
- uuu. Ventilation of emissions from mobile sources operating within a tunnel, garage, or building.
- vvv. Non-asbestos demolition.
- www. Sandblast equipment when the blast media is recycled and the blasted material is collected.
- xxx. Nonroad engines as defined in 40 C.F.R. 89.2:
 - (1) Except as discussed in paragraph (2) of this definition, a nonroad engine is any internal combustion engine:
 - (i) In or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or
 - (ii) In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
 - (iii) That, by itself or in or on a piece of equipment is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer or platform.
 - (iv) In or on a trailer or truck bed which powers light commercial equipment, such as generators, pumps and compressors.
 - (v) Less than or equal to 175 horsepower which operate less than 1,450 h per year.
 - (vi) Greater than 175 horsepower and less than or equal to 300 horsepower which operate less than 850 h per year.
 - (vii) Greater than 300 horsepower and less than or equal to 750 horsepower which operate less than 340 h per year.
 - (2) An internal combustion engine is not a nonroad engine if:

- (i) The engine is used to propel a motor vehicle or a vehicle used solely for competition, or is subject to standards promulgated under Section 202 of the Act; or
- (ii) The engine is regulated by a federal New Source Performance Standard promulgated under Section 111 of the Act; or
- (iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive mo or a shorter period of time for an engine located as a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three mo (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location.

yyy. Surface water storage impoundment of non-potable water and storm water evaporation ponds.

zzz. Non-potable water pipeline vents.

aaaa. Steam vents and safety release valves.

bbbb. Deaerator/vacuum pump exhausts.

cccc. Seal and lubricating oil systems for steam turbine electric generators.

dddd. Venting of natural gas lines for safety purposes.

eeee. Chemical storage tanks

(i) Sulfuric acid storage tanks not to exceed 10,500 gallons capacity.

(ii) Sodium hydroxide storage tanks.

Appendix 1-6

Air Quality Limitations: Maximum Allowable Increases Over Baseline Concentrations

(Source: 5 CCR 1001-5, Part D, Section X)

[Citation Revised July 1997; Revised May 1998; Citation Revised March 2010]

Class I Areas

<u>Particulate matter</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	4
24-h maximum	8
<u>Sulfur dioxide</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	2
24-h maximum	5
3-h maximum	25
<u>Nitrogen dioxide</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	2.5

Class II Areas

<u>Particulate matter</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	17
Twenty-four h maximum	30
<u>Sulfur dioxide</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	20
Twenty-four hour maximum	91
Three-h maximum	512
<u>Nitrogen dioxide</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	25

Class III Areas

<u>Particulate matter</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	34
Twenty-four h maximum	60
<u>Sulfur dioxide</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	40
Twenty-four h maximum	182
Three-h maximum	700
<u>Nitrogen dioxide</u>	$\mu\text{g}/\text{m}^3$
Annual arithmetic mean	50

Appendix 1-7

General Requirements for Operating Permits

(Source: 5 CCR 1001-5, Part C, Section II) [Added May 1998]

Applicable Sources

The following sources must obtain an operating permit:

- a. Any affected source;
- b. Any major source; with the exception of those sources that would be major based only on TSP emissions;
- c. Any source required to have a permit pursuant to the prevention of significant deterioration program of Part C, Title I of the federal act;
- d. Any source required to have a permit pursuant to the program for the attainment and maintenance of national ambient air quality standards or Part D of Title I of the federal act; and
- e. Any solid waste incineration unit that is a distinct operating unit of any facility which combusts any solid waste material from commercial or industrial establishments or the general public (including single residences, hotels, and motels).

Such term does not include:

- (1) incinerators or other units required to have a permit under 42 U.S.C. § 6925 of the Solid Waste Disposal Act,
 - (2) materials recovery facilities (including primary or secondary smelters) which combust waste for the primary purpose of recovering metals,
 - (3) qualifying small power production facilities, as defined in 16 U.S.C. § 769 (17)(C), or qualifying cogeneration facilities, as defined in 16 U.S.C. § 796 (18)(B), of the Federal Power Act, which burn homogenous waste for the production of electric energy or in the case of qualifying cogeneration facilities which burn homogeneous waste for the production of electric energy and steam or forms of useful energy (such as heat) which are used for industrial, commercial, heating, or cooling purposes, or
 - (4) air curtain incinerators provided that such incinerators only burn wood wastes, yard wastes and clean lumber and that such air curtain incinerators comply with any applicable opacity limitations. Operating permits for solid waste incineration units shall be obtained within 36 mo of promulgation of a new source performance standard applicable to such units.
- f. Any source designated by the administrator and the commission as requiring an operating permit.
 - g. A source is not required to obtain an operating permit solely because it is subject to regulation or requirements pursuant to section 112 (r) of the federal act.

Exemptions

The following sources are exempt from the requirement to obtain an operating permit pursuant to 5 CCR 1001-5, Part C:

1. Sources subject to regulation or requirements pertaining to standards of performance for new residential wood heaters pursuant to Regulation No. 6 (5 CCR 1001-8); or
2. Sources subject to regulation or requirements pertaining to national emissions standards for hazardous air pollutants for asbestos in the course of demolition and renovation pursuant to Regulation No. 8 (5 CCR 1001-10).
3. Certain categories of sources and activities which are considered to be insignificant contributors to air pollution as listed below. A source solely comprised of one or more of these activities is not required to obtain an operating permit pursuant to this regulation, unless the source's emissions trigger the major source threshold as defined in 5 CCR 1001-5, Part A, Section I.B.58 (Definition of "major source" for purposes of Part C):
 - a. Individual emission points in nonattainment areas having uncontrolled actual emissions of any criteria pollutant as defined in part a, section ii.B.9 Of this regulation no. 3 of less than one ton/yr, and individual emission points in attainment areas having uncontrolled actual emissions of any criteria pollutant of less than two tons per year, and each individual emission point with uncontrolled actual emissions of lead less than 100 lb/yr, regardless of where the source is located.

- b. Individual emission points of non-criteria reportable pollutants having uncontrolled actual emissions less than the de minimis levels as determined following the procedures set forth in Appendix A.
- c. Air conditioning or ventilating systems not designed to remove air pollutants generated by or released from other processes or equipment.
- d. Fireplaces used for recreational purposes, inside or outside.
- e. fires and equipment used for noncommercial cooking of food for human consumption, or cooking of food for human consumption at commercial food service establishments, except for charbroilers and wood fired equipment (but not including campfires) in PM-10 nonattainment areas. Charbroiler shall mean a cooking device in a commercial food service establishment, either gas fired or using charcoal or other fuel, upon which grease drips down upon an open flame, charcoal or embers.
- f. Flares used to indicate danger to the public.
- g. Agriculture operations normally conducted at the farm or ranch including, for example, cultivating and harvesting. This shall not include grain elevator operations, feed mill operations or other post-harvesting activities normally not conducted on the farm or ranch.
- h. Emissions from, or construction, or alteration of residential structures, including all buildings or other structures used primarily as a place of residence, and including home heating devices.
- i. The following:
 - (a) noncommercial (in-house) experimental and analytical laboratory equipment which is bench scale in nature including quality control/quality assurance laboratories, process support laboratories, environmental laboratories supporting a manufacturing or industrial facility, and research and development laboratories.
 - * (b) Research and development activities which are of a small pilot scale and which process less than 10,000 lb of test material per year;
 - * (c) small pilot scale research and development projects less than six mo in duration with controlled actual emissions less than 500 lb of any criteria pollutant or 10 lb of any non-criteria reportable pollutant.
- *j. Disturbance of surface areas for purposes of land development, which do not exceed 25 contiguous acres and which do not exceed six mo in duration. (This does not include mining operations or disturbance of contaminated soil).
- *k. Each individual piece of fuel burning equipment, other than smokehouse generators and internal combustion engines, which uses gaseous fuel, and which has a design rate less than or equal to 5 million Btu per hour. (See definition of fuel burning equipment, Common Provisions Regulation).
- l. Internal combustion engines powering portable drilling rigs.
- *m. Petroleum industry flares, not associated with refineries, combusting natural gas containing no H₂S except in trace (less than 500 ppmw) amounts, approved by the Colorado Oil and Gas Conservation Commission and having uncontrolled emissions of any pollutant of less than five tons per year.
- *n. Chemical storage tanks or containers that hold less than 500 gallons, and which have a daily throughput less than 25 gallons.
- o. Unpaved public and private roadways, except for haul roads located within a stationary source site boundary.
- p. Sanding of streets and roads to abate traffic hazards caused by ice and snow.
- q. open burning activities, except that all reporting and permitting requirements that apply to such operations must be followed (see Regulation No. 1).
- r. brazing, soldering, or welding operations, except those, which use lead based compounds. All welding that occurs strictly for maintenance purposes is exempt.
- s. Street and parking lot striping.
- t. Battery recharging areas.
- u. Aerosol can usage.
- v. Sawing operations, which are ancillary to facility operations, and are not part of the production process.
- w. The process of demolition and re-bricking of furnaces and kilns. This does not include subsequent operation of such furnaces or kilns.
- x. Road and lot paving operations at commercial and industrial facilities, except that asphalt and cement batch plants require APENs and permits, unless exempt under some other paragraph.
- y. Adhesive use, which is not related to production.
- z. Fire training activities.

- aa. Caulking operations which are not part of a production process.
- *bb. Landscaping and site housekeeping devices equal to or less than 10 H.P. in size (lawnmowers, trimmers, snow blowers, etc.).
- cc. Fugitive emissions from landscaping activities (e.g., weeding, sweeping).
- dd. Landscaping use of pesticides, fumigants, and herbicides.
- *ee. Crude oil or condensate loading truck equipment at crude oil production sites where the loading rate does not exceed 10,000 gallons per day averaged over any 30 day period.
- ff. Emergency events such as accidental fires.
- gg. Smoking rooms and areas.
- hh. Plastic pipe welding.
- ii. Vacuum cleaning systems used exclusively for industrial, commercial, or residential housekeeping purposes.
- jj. Beauty salons.
- kk. Operations involving acetylene, butane, propane and other flame cutting torches.
- ll. Pharmacies.
- *mm. Chemical storage areas where chemicals are stored in closed containers, and where total storage capacity does not exceed 5000 gallons. This exemption applies solely to storage of such chemicals. This exemption does not apply to transfer of chemicals from, to, or between such containers.
- nn. Architectural painting, roof coating material and associated surface preparation (except for sandblasting and except for volatile organic compound emissions, associated with surface preparation, above APEN de minimis levels) for maintenance purposes at industrial or commercial facilities.
- oo. Emissions of air pollutants which are not criteria or non-criteria reportable pollutants (See Section I.B.38, Part A).
- pp. Janitorial activities and products.
- qq. Groundskeeping activities and products.
- rr. Sources of odorous emissions which do not utilize emission control equipment for control of odorous emissions. This exemption applies to the odor emissions only. All other emissions are subject to other exemptions set forth in this regulation. This exemption does not exempt any source from the requirements of Regulation No. 2.
- ss. Truck and car wash units.
- tt. Office emissions, including cleaning, copying, and restrooms.
- *uu. Oil production wastewater (produced water tanks), containing less than 1 percent by volume crude oil, except for commercial facilities which accept oil production wastewater for processing.
- vv. Electrically operated curing ovens, drying ovens and similar activities, articles, equipment, or appurtenances. This exemption applies to the ovens only, and not to the items being dried in the ovens.
- ww. Equipment used exclusively for portable steam cleaning.
- xx. Blast-cleaning equipment using a suspension of abrasive in water and any exhaust system or collector serving them exclusively.
- yy. Commercial laundries (except dry cleaners) which do not burn liquid or solid fuel.
- *zz. Storage of butane, propane, or liquefied petroleum gas in a vessel with a capacity of less than 60,000 gallons, provided the requirements of Regulation No. 7, Section IV are met, where applicable.
- aaa. Storage tanks of capacity <40,000 gal of lubricating oils.
 - (i) Lubricating oil conditioning systems.
 - (ii) Waste lubricating oil storage tanks not larger than 40,000 gal.
- *bbb. venting of compressed natural gas butane or propane gas cylinders, with a capacity of 1 gal or less.
- *ccc. Fuel storage and dispensing equipment in ozone attainment areas operated solely for company-owned vehicles where the daily fuel throughput is no more than 400 gallons per day, averaged over a 30 day period.
- *ddd. Crude oil or condensate storage tanks with a capacity of 40,000 gallons or less.
- eee. Indirect sources are exempt until a permit regulation specific to indirect sources is promulgated by the Commission.
- *fff. Storage tanks meeting all of the following criteria:
 - (i) annual throughput is less than 400,000 gal; and
 - (ii) the liquid stored is one of the following:
 - (A) diesel fuels I-D, 2-D, or 4 - 6;

- (B) fuel oils #1 through #6;
 - (C) gas turbine fuels 1-GT through 4-GT;
 - (D) an oil/water mixture with a vapor pressure lower than that of diesel fuel (Reid vapor pressure of .025 PSIA).
- *ggg. Each individual piece of fuel burning equipment which uses gaseous fuel, and which has a design rate less than or equal to 10 million Btu per hour, and which is used solely for heating buildings for personal comfort.
- hhh. Natural gas vehicle fleet fueling facilities.
- iii. Electric motors driving equipment at non-commercial machining shops.
- jjj. Recreational swimming pools.
- kkk. Forklifts.
- lll. Handling equipment and associated activities for glass which is destined for recycling.
- mmm. Containers, reservoirs, or tanks used exclusively for dipping operations for coating objects with oils, waxes, greases, or natural or synthetic resins containing no organic solvents.
- nnn. Stationary Internal Combustion Engines which:
- (i) power portable drilling rigs; or
 - *(ii) are emergency power generators which have a rated horsepower of less than 260 or; operate no more than 250 h per year and have a rated horsepower of less than 737; or operate no more than 100 h per year and have a rated horsepower of less than 1840; or
 - *(iii) have actual emissions less than five tons per year or rated horsepower of less than 50.
- ooo. The collection, transmission, liquid treatment, and solids treatment processes at domestic wastewater treatment works, or treatment facilities which treat only domestic type wastewater, except for combustion processes.
- ppp. Gasoline stations located in ozone attainment areas.
- *qqq. Surface mining activities which mine 70,000 tons or fewer of product material per year. A fugitive dust control plan is required for such sources. Crushers, screens and other processing equipment activities are not included in this exemption.
- rrr. Composting piles, however, all odor requirements of Regulation No. 2 must be met.
- sss. Fugitive emissions of hazardous air pollutants which are natural constituents of native soils and rock (not added or concentrated by chemical or mechanical processes) from under ground mines or surface mines unless such source is a major source of hazardous air pollutants under Part C of this Regulation No. 3.
- ttt. The use of pesticides, fumigants, and herbicides when used in accordance with requirements established under the federal Insecticide, Fungicide and Rodenticide Act (FIFRA) as established by the EPA (7 U.S.C. § 136 et seq.).
- uuu. Ventilation of emissions from mobile sources operating within a tunnel, garage, or building.
- vvv. Non-asbestos demolition.
- www. Sandblast equipment when the blast media is recycled and the blasted material is collected.
- xxx. Nonroad engines as defined in 40 C.F.R. 89.2:
- (1) Except as discussed in paragraph (2) of this definition, a nonroad engine is any internal combustion engine:
 - (i) In or on a piece of equipment that is self-propelled or serves a dual purpose by both propelling itself and performing another function (such as garden tractors, off-highway mobile cranes and bulldozers); or
 - (ii) In or on a piece of equipment that is intended to be propelled while performing its function (such as lawnmowers and string trimmers); or
 - (iii) That, by itself or in or on a piece of equipment is portable or transportable, meaning designed to be and capable of being carried or moved from one location to another. Indicia of transportability include, but are not limited to wheels, skids, carrying handles, dolly, trailer or platform.
 - (iv) In or on a trailer or truck bed which powers light commercial equipment, such as generators, pumps and compressors.
 - (v) Less than or equal to 175 horsepower which operate less than 1,450 h per year.
 - (vi) Greater than 175 hp and less than or equal to 300 hp which operate less than 850 hrs/yr.
 - (vii) Greater than 300 horsepower and less than or equal to 750 horsepower which operate less than 340 h per year.

- (2) An internal combustion engine is not a nonroad engine if:
- (i) The engine is used to propel a motor vehicle or a vehicle used solely for competition, or is subject to standards promulgated under Section 202 of the Act; or
 - (ii) The engine is regulated by a federal New Source Performance Standard promulgated under Section 111 of the Act; or
 - (iii) The engine otherwise included in paragraph (1)(iii) of this definition remains or will remain at a location for more than 12 consecutive mo or a shorter period of time for an engine located as a seasonal source. A location is any single site at a building, structure, facility, or installation. Any engine (or engines) that replaces an engine at a location and that is intended to perform the same or similar function as the engine replaced will be included in calculating the consecutive time period. An engine located at a seasonal source is an engine that remains a seasonal source during the full annual operating period of the seasonal source. A seasonal source is a stationary source that remains in a single location on a permanent basis (i.e., at least two years) and that operates at a single location approximately three mo (or more) each year. This paragraph does not apply to an engine after the engine is removed from the location.

yyy. Surface water storage impoundment of non-potable water and storm water evaporation ponds.

zzz. Non-potable water pipeline vents.

aaaa. Steam vents and safety release valves.

bbbb. Deaerator/vacuum pump exhausts.

cccc. Seal and lubricating oil systems for steam turbine electric generators.

dddd. Venting of natural gas lines for safety purposes.

eeee. Chemical storage tanks

- (i) Sulfuric acid storage tanks not to exceed 10,500 gallons capacity.
- (ii) Sodium hydroxide storage tanks.

(NOTE: Sources may not take any of the insignificant activity exemptions from the following list if exempting the emissions from such activities would avoid any applicable requirement, including the requirement to obtain an operating permit. Sources otherwise required to obtain an operating permit are required to include a list of insignificant activities in their permit applications if the insignificant activities are listed in paragraph E.3 below and are based on the size of the activity, emissions levels from the activity or the production rate of the activity or if the insignificant activities are contained in paragraph E.1. or E.2. below. Insignificant activity source categories listed in E.3. below for the purpose of this paragraph are considered to be those activities that are marked with an (*) asterisk.)

Appendix 1-8

Minimum Cooling Capacities for Refrigerated Freeboard Chillers on Vapor Degreasers

(Source: 5 CCR 1001-9, Appendix D)

[Citation Revised July 1997; Citation Revised May 1998; Revised March 2006; Citation Revised March 2009; Citation Revised March 2010]

Degreaser Width	Calories/h* Meter of Parameter	Btu/h Foot of Parameter
Less than 1.1 m (3.5 ft)	165	200
1.1 - 1.8 m (3.5 - 6.0 ft)	250	300
1.8 - 2.4 m (6.0 - 8.0 ft)	335	400
2.4 - 3.0 m (8.0 - 10.0 ft)	145	500
Greater than 3.0 m (10.0 ft)	500	600

*Kilocalories (1 kilocalorie = 4184.0 J); for refrigerated chillers operating above 0 °C, there should be at least 415 calories/h-meter of perimeter (500 Btu/h-ft), regardless of size.

Appendix 1-9

AIR Program Area

(Source: CRS 42-4-304 (20)) [Added May 1998; Revised March 2010]

The AIR program area consists of the counties of Adams, Arapahoe, Boulder, Douglas, El Paso, Jefferson, Larimer, and Weld, and the cities and counties of Broomfield and Denver, excluding the following areas:

- that portion of Adams county which is east of Kiowa creek (Range 62 West, Townships 1, 2, and 3 South) between the Adams-Arapahoe county line and the Adams-Weld county line
- that portion of Arapahoe county which is east of Kiowa creek (Range 62 West, Townships 4 and 5 South) between the Arapahoe-Elbert county line and the Arapahoe-Adams county line
- that portion of El Paso county which is east of the following boundary, defined on a south-to-north axis: From the El Paso-Pueblo county line north (upstream) along Chico creek (Ranges 63 and 64 West, Township 17 South) to Hanover road, then east along Hanover road (El Paso county route 422) to Peyton highway, then north along Peyton highway (El Paso county route 463) to Falcon highway, then west on Falcon highway (El Paso county route 405) to Peyton highway, then north on Peyton highway (El Paso county route 405) to Judge Orr road, then west on Judge Orr road (El Paso county route 108) to Elbert road, then north on Elbert road (El Paso county route 91) to the El Paso-Elbert county line
- that portion of Larimer county that is west of the boundary defined on a north-to-south axis by Range seventy-one west and north of the boundary defined on an east-to-west axis by township five north, that portion that is west of the boundary defined on a north-to-south axis by range seventy-three west, and that portion that is north of the boundary latitudinal line 40 degrees, 42 minutes, 47.1 seconds north
- that portion of Weld county that is north of the boundary defined on an east-to-west axis by Weld county road 78; that portion that is east of the boundary defined on a north-to-south axis by Weld county road 43 and north of the boundary defined on an east-to-west axis by Weld county road 62; that portion that is east of the boundary defined on a north-to-south axis by Weld county road 49, south of the boundary defined on an east-to-west axis by Weld county road 62 and north of the boundary defined on an east-to-west axis by Weld county road 46; that portion that is east of the boundary defined on a north-to-south axis by Weld county road 27, south of the boundary defined on an east-to-west axis by Weld county road 46 and north of the boundary defined on an east-to-west axis by Weld county road 36; that portion that is east of the boundary defined on a north-to-south axis by Weld county road 19, south of the boundary defined on an east-to-west axis by Weld county road 36 and north of the boundary defined on an east-to-west axis by Weld county road 20; and that portion that is east of the boundary defined on a north-to-south axis by Weld county road 39 and south of the boundary defined on an east-to-west axis by Weld county road 20.

Appendix 1-10

Ambient Air Quality Standards for the State of Colorado

(Source: 5 CCR 1001-14.II and III)

[Revised May 1998; Citation Revised March 1999; Revised April 2000; Revised March 2001; Revised March 2002;
Revised April 2003; Revised March 2004; Revised March 2005]

Pollutant	Averaging Time	Quality Standards*	Methods**
Ozone	1 h	235 ug/m ³	Ethylene Chemiluminescent
Carbon Monoxide (CO)	8 h	10 mg/m ³	Non-Dispersive Infrared Spectroscopy
Carbon Monoxide (CO)	1 h	40 mg/m ³	Non-Dispersive Infrared Spectroscopy
Nitrogen Dioxide (NO ₂)	Annual Average	100 ug/m ³	Chemiluminescent
PM10	24 h	150 ug/m ³	Size Selective Inlet/Gravimetric
PM10	Annual Average	50 ug/m ³	Size Selective Inlet/Gravimetric

All measurements of air quality are corrected to a reference temperature of 25°C and to a reference pressure of 760 millimeters of mercury (1,013.2 Millibars).

* Standards other than annual averages are not to be exceeded more than once per year.

** Reference method as described by E.P.A. An equivalent method may be used if it has consistent relationship to reference method and is approved by E.P.A. and the Air Pollution Control Division.

Classification of Carbon Monoxide Nonattainment and Attainment/Maintenance Areas in Colorado.

Area	Classification
Denver Metro Area	Attainment/Maintenance
Colorado Springs	Attainment/Maintenance
Fort Collins	Attainment/Maintenance*
Greeley Area	Attainment/Maintenance
Longmont	Attainment/Maintenance

* The designation of asterisked areas as attainment/maintenance shall become effective upon publication in the Federal Register of EPA approval of such designation. Until such approval, and publication, the areas remain nonattainment for the respective pollutant.

Description of Boundaries for Denver Metropolitan Carbon Monoxide Attainment/Maintenance Area

The Boundaries for the Denver metropolitan attainment/maintenance area for carbon monoxide (CO) are described as follows:

Starting at Colorado Highway 52 where it intersects the eastern boundary of Boulder County;
Follow Highway 52 where it intersects Colorado Highway 119;
Follow northern boundary of Boulder city limits west to the 6000-ft. elevation line;
Follow the 6000-ft. elevation line south through Boulder and Jefferson counties to US 6 in Jefferson County;
Follow US 6 west to the Jefferson County-Clear Creek County line;

Follow the Jefferson County western boundary south to the southern boundary of Range 72 West, Township 6 South, Section 24;
 Follow the southern section line east to the eastern boundary of Range 71 West, Township 6 South, Section 24;
 Follow the eastern section line north to South Turkey Creek;
 Follow South Turkey Creek northeast to Deer Creek Canyon Road;
 Follow Deer Creek Canyon Road to the eastern boundary of Range 69 West, Township 6 South, Section 5;
 Follow the Pike National Forest boundary southeast through Douglas County to the Douglas County - El Paso County line;
 Follow the southern boundary of Douglas County east to the Elbert County line;
 Follow the eastern boundary of Douglas County north to the Arapahoe county line;
 Follow the southern boundary of Arapahoe County east to Kiowa Creek;
 Follow Kiowa Creek northeast through Arapahoe county and Adams counties to the Adams County -Weld County line;
 Follow the northern boundary of Adams County west to the Boulder County line;
 Follow the eastern boundary of Boulder County north to Highway 52.

PM₁₀ Attainment/Maintenance Areas
Area **Classification**

Denver Metro Area	Attainment/Maintenance* [#]
Steamboat Springs	Attainment/Maintenance*
Pagosa Springs	Attainment/Maintenance
Telluride/Mt. Village/San Miguel County	Attainment/Maintenance
Aspen/Pitkin County	Attainment/Maintenance*
Canon City/Fremont County	Attainment/Maintenance
Lamar	Attainment/Maintenance*

Ozone

Denver Metro Area	Attainment/Maintenance***
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* The designation of asterisked areas as attainment/maintenance shall become effective upon publication in the Federal Register of EPA approval of such designation. Until such approval, and publication, the areas remain nonattainment for the respective pollutant.

[#] The classification of the Denver Metro Area as an attainment/maintenance area shall not affect Air Quality Control Commission Regulations No. 1, 5 CCR 1001-3, section VIII; or No. 3, 5 CCR 1001-5, Part B, section IV.D.2(d)(i) or (ii). Such provisions shall apply in the Denver Metro Area in the same manner as they would apply if the Denver Metro Area were a nonattainment area for PM₁₀.

*** All of Denver, Jefferson, and Douglas Counties; Boulder County (excluding Rocky Mountain National Park) and the Automobile Inspection and Readjustment Program portions of Adams and Arapahoe Counties. See attached map.

Nonattainment Area for PM₁₀

Area	Classification	Boundary
Denver Metro Area	Attainment/Maintenance	All of Denver, Jefferson, and Douglas Counties; Boulder County (excluding Rocky Mountain National Park) and the Automobile Inspection and Readjustment Program portions of Adams and Arapahoe Counties.
Steamboat Springs	Designation Deferred	All of the Counties of Adams, Arapahoe, Boulder, Douglas, Elbert, Jefferson, Larimer, Morgan, and Weld, and all of the Cities and Counties of Denver and Broomfield.

Appendix 1-11

Decision Information for De Minimus Prescribed Burning and Significant Users of Prescribed Fire

(Source: 5 CCR 1001-11, Appendix A and B)

[Added April 2003; Revised March 2010]

APPENDIX A DE MINIMUS PRESCRIBED FIRE PROJECTS

Some proposed planned ignition prescribed fire projects for grassland and forest management may emit relatively low amounts of smoke and emissions and be below the de minimus threshold of a low potential for smoke impacts. If so, such projects may apply for a general open burning permit. Alternatively, if a project is above the de minimus threshold, then such projects must apply for and may obtain a planned ignition fire permit. To determine whether a proposed planned ignition prescribed fire is above or below the threshold for low potential smoke impacts, the Division shall consider the following factors:

1. Size of the project;
2. Fuel type
3. Duration of the project including smoldering and potential for nighttime smoke; and
4. Proximity of the project to smoke sensitive areas

Projects meeting the following guidelines will be considered to have low potential for smoke impacts for the first three factors:

DeMinimus Threshold for Open Burning Permits	
Type of Project	Thresholds
Broadcast Burn	<10 acres of grass OR < 5 acres of other vegetation
Pile Burn	All piles out cold before sunset AND No more than 50 piles total in the project

The final factor, proximity of the project to smoke sensitive areas will be addressed with project permit conditions. The Division may apply the factors and approve different DeMinimus Thresholds for good cause shown.

APPENDIX B

ESTIMATING PM₁₀ EMISSIONS FOR THE PURPOSE OF DETERMINING WHETHER A LANDOWNER/MANAGER IS A SIGNIFICANT USER OF PRESCRIBED FIRE

EXAMPLE BURNS				
Estimated to Potentially Produce 10 Tons of PM ₁₀ Emissions				
FUEL TYPE	SIZE OF BURN	FUEL LOADING ASSUMED	FUEL CONSUMPTION ASSUMED (percent)	EMISSION FACTOR (pounds/ton)
Grass	575 acres	2 tons/acre	87	20
Sagebrush	191 acres	5 tons/acre	70	30
Oakbrush or Aspen	556 acres	4 tons/acre	50	18
Pine/Conifer	23 acres	30 tons/acre	48	60
Pinon/Juniper	476 acres	3 tons/acre	59	24
Piled Slash	144,000 cubic feet	38 pounds/cubic feet	92	8

Example Calculations:

Example 1

A grass burn of 575 acres that is estimated to have a fuel loading of 2 tons per acre and 98 percent of the acreage burned (black acreage) is estimated to produce:

$$\{[(575 \text{ acres} \times .98) \times 2 \text{ tons/acre}] \times 20 \text{ pounds/ton}\} 2000 \text{ pounds/ton} = 11.27 \text{ tons of PM}_{10}$$

A landowner/manager completing this burn is a “significant user of prescribed fire” as defined in Regulation No. 9.

Example 2

A manager is proposing to treat 140 acres of mixed conifer in this calendar year. It is estimated the fuel loading is 5 tons per acre and 48 percent of the area is to be burned. This burn is estimated to produce the following particulate matter emissions:

$$\begin{aligned} 140 \text{ acres} \times 48 \text{ percent fuel consumption} &= 67.2 \text{ black acres} \\ 67.2 \text{ acres} \times 5 \text{ tons/acre} &= 312 \text{ tons of fuel consumed} \\ (312 \text{ tons} \times 60 \text{ pounds PM}_{10}/\text{ton}) & 2000 \text{ pounds/ton} = 9.36 \text{ tons of PM}_{10} \end{aligned}$$

The PM₁₀ emissions are below 10 tons. Based on this single burn, the manager is not defined as a “significant user of prescribed fire” in Regulation No. 9. If additional projects are to be completed in the same calendar year, the manager may be defined as a “significant user of prescribed fire” due to cumulative total PM₁₀ emissions exceeding 10 tons.

TABLE II		
SOURCES OF INFORMATION /DATA USED IN TABLE I		
FUEL TYPE	REFERENCE	
	FUEL LOADING	EMISSION FACTOR
Grass	Aids to Determining Fuel Models for Estimating Fire Behavior, US Forest Service, 1982 and historical activity data	AP-42, EPA, 1996, Rocky Mtn Grasslands
Sagebrush	Average of historical activity data reported to the Division	US Forest Service. Fire and Air research Station memo to the Division, 1990
Oakbrush or Aspen	Average of historical activity data reported to the Division	AP-42, EPA, 1996, Pacific SW Chaparral
Pine/Conifer	AP-42, EPA, 1996, Wildfires and Prescribed Burning, Rocky Mtn. Avg.	AP-42, EPA, 1996, Rocky Mtn Underburning Pine
Pinon/Juniper	Average of historical activity data reported to the Division	AP-42, EPA, 1996, Pacific SW Pinon/Juniper
Piled Slash	Guidelines for Estimating Volume, Biomass, and Smoke Production for Piled Slash, US Forest Service, 1996	AP-42, EPA, 1996, Rocky Mtn Logging Slash

SECTION 2

CULTURAL RESOURCES MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Cultural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

These definitions were obtained from An Act Concerning the Preservation of Historical, Prehistorical, and Archaeological Resources of Colorado.

- *Archaeological Resources* - all sites, deposits, structures, or objects that are at least 100 yr old and that provide information pertaining to the historical or prehistorical culture of people within the boundaries of the State of Colorado (8 Colorado Code of Regulations (CCR) 1504-7, Section 2) [Citation Revised March 2010].
- *Historical* - older than 50 years of age and during the period that written records have been used to document events in Colorado (8 CCR 1504-7, Section 2) [Added March 2010].
- *Historical Resources* - all sites, deposits, structures, buildings, or objects which provide information pertaining to the culture of people during the historical period (8 CCR 1504-7, Section 2) [Added March 2010].
- *Permit* - a written authorization issued by the society that allows the investigation, excavation, gathering, or removal of historical, archaeological or paleontological resources from lands within the state of Colorado (8 CCR 1504-7, Section 2) [Added March 2010].
- *Survey* - the search for, inventorying of, and documentation of archaeological or paleontological resources in the field by non-destructive means in accordance with established standards for the purpose of recording such remains on official Colorado inventory forms, and of preparing reports that meet guidelines published by the society (8 CCR 1504-7, Section 2) [Added March 2010].

<p>CULTURAL RESOURCES MANAGEMENT GUIDANCE FOR COLORADO CHECKLIST USERS</p>						
<p>REFER TO CHECKLIST ITEMS:</p>						
<table><tr><td>Missing Checklist Items</td><td>CR.2.1.CO.</td></tr><tr><td>Historic Properties</td><td>CR.5.1.CO. and CR.5.2.CO.</td></tr><tr><td>Archaeological/Indian Sites</td><td>CR.15.1.CO.</td></tr></table>	Missing Checklist Items	CR.2.1.CO.	Historic Properties	CR.5.1.CO. and CR.5.2.CO.	Archaeological/Indian Sites	CR.15.1.CO.
Missing Checklist Items	CR.2.1.CO.					
Historic Properties	CR.5.1.CO. and CR.5.2.CO.					
Archaeological/Indian Sites	CR.15.1.CO.					

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
CR.2 MISSING CHECKLIST ITEMS CR.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>CR.5.</p> <p>HISTORIC PROPERTIES</p> <p>CR.5.1.CO. Actions by agencies that affect historic properties must be cleared with the State Historical Society (8 CCR 1504-7, Section 10) [Revised March 2010].</p> <p>CR.5.2.CO. Permits are required for the investigation, excavation, gathering, or removal of historical resources (8 CCR 1504-7, Section 4) [Revised March 2010].</p>	<p>Verify that agency actions that may affect a property 50 or more years old are brought to the attention of the State Historical Society for determination of the historical significance of the property.</p> <p>Verify that, when agencies consider actions that may affect a property or properties included on the State Register, the State Historical Society is notified in writing.</p> <p>Verify that, in the event that historical, prehistorical or archaeological resources are discovered in the course of an agency action, the agency and/or project proponent(s) should refrain from knowingly damaging the resources and notify the State Historical Society of Colorado.</p> <p>(NOTE: On private lands subject to state actions, the landowner or project proponent(s) should make reasonable efforts to avoid or minimize harm to newly discovered historical, prehistorical or archaeological resources. The landowner or project proponent(s) should notify the funding or permitting agency and the society as soon as possible after such a discovery.)</p> <p>Verify that, when a permit is necessary for the investigation or removal of historic resources, its conditions are met.</p> <p>(NOTE: Four classes of permits are issued:</p> <ul style="list-style-type: none"> - Survey only permits authorize the search for, inventorying of and documentation of archaeological or paleontological resources in the field by non-destructive means in accordance with established standards for the purpose of recording such remains on official Colorado inventory forms and of preparing reports that meet guidelines published by the society. No specimens are authorized to be collected, except artifacts exposed on the surface of the ground. Such permits may be statewide in scope, and are issued for a period of one year or less. - Non-collection survey permits authorize the search for, inventorying of and documentation of archaeological or paleontological resources in the field by non-destructive means in accordance with established standards for the purpose of recording such remains on official Colorado inventory forms and of preparing reports. Absolutely no specimens, artifacts, or fossils are authorized to be collected. Such permits may be statewide in scope, and are issued for a period of one year or less. - Survey and test excavation permits authorize limited excavation of noncontiguous units (totaling less than 10 square meters), gathering and removal of specimens, sufficient to evaluate the cultural significance of

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
	<p>identified archaeological or paleontological properties. Such permits may be statewide in scope, and are issued for a period of 14 months or less.</p> <ul style="list-style-type: none"> - Excavation permits authorize subsurface investigations of a specified historical, archaeological or paleontological resource(s), or an unmarked human burial, in accordance with a research design or statement of objectives that has been approved for the specific resource(s) described in the application, and may be issued for a period not to exceed 14 months.)

COMPLIANCE CATEGORY: CULTURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>CR.15.</p> <p>ARCHAEOLOGICAL/ INDIAN SITES</p> <p>CR.15.1.CO. Specific procedure must be followed when human skeletal remains are discovered (8 CCR 1504-7, Section 13) [Revised March 2010].</p>	<p>Verify that the discovery of unmarked human graves more than 100 years old is reported to the coroner, sheriff, police chief, or land managing official.</p> <p>Verify that local law enforcement agencies are notified when any unmarked human burial is disturbed.</p> <p>(NOTE: The excavation of unmarked human burials requires a permit on all non-Federal lands in Colorado.)</p>

SECTION 3

HAZARDOUS MATERIALS MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Hazardous Materials Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Hazardous Materials* - those materials listed in Tables 1 and 2 of 49 Code of Federal Regulations (CFR) 172.504, General Placarding Requirements, but not including any of the following (Title 8 Code of Colorado Rules (CCR) 1507-25) [Citation Revised March 2009]:
 1. highway route controlled quantities of radioactive materials (see 49 CFR 173.403(l))
 2. ores, the products from mining, milling, smelting, and similar processing of ores, and the wastes and tailing there from
 3. special fireworks (see 49 CFR 173.88(d)) when the aggregate amount of flash powder does not exceed 50 lb.
- *Hazardous Substance* - any substance, material, waste, or mixture designated as a hazardous material, waste, or substance according to 49 Code of Federal Regulations Part 172, as amended, or by section 18-13-112(2)(b), C.R.S., or as designated pursuant to the federal "Comprehensive Environmental Response, Compensation, and Liability Act of 1980" (PL 96-510) [FN1] as in effect July 1, 1983. (Colorado Revised Statutes (CRS) 29-22-101) [Added March 2010].
- *Hazardous Substance Incident* - any emergency circumstance involving the sudden discharge of a hazardous substance which threatens immediate and irreparable harm to the environment or the health and safety of any individual other than individuals exposed to the risks associated with hazardous substances in the normal course of their employment. "Hazardous substance incident" includes those incidents of spilling, dumping, or abandonment of a hazardous substance, whether or not such spilling, dumping, or abandonment is found to threaten immediate and irreparable harm, but such term does not include any discharge of a hazardous substance authorized pursuant to any federal, state, or local law or regulation. "Hazardous substance incident" includes those incidents which occur during transportation of a hazardous substance, in which a spill does not occur during the incident but is threatened prior to or during the cleanup period (CRS 29-22-101) [Added March 2010].
- *Person* - any individual, public or private corporation, partnership, association, firm, trust, or estate, the state or any department, institution, or agency thereof, any municipal corporation, county, city and county, or other political subdivision of the state, or any other legal entity whatsoever which is recognized by law as the subject of rights and duties (CRS 29-22-101) [Added March 2010].
- *Private Property* - any property under the control, management, or operation of any person other than a governmental agency (CRS 29-22-101) [Added March 2010].
- *Public Road* - every way publicly maintained and opened to the use of the public for the purposes of vehicular travel, including, but not limited to, streets, bridges, toll roads, tunnels, and state and Federal highways (CRS 42-20-103).xx

HAZARDOUS MATERIALS MANAGEMENT GUIDANCE FOR COLORADO CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
Missing Checklist Items	HM.2.1.CO.
Right-To-Know	HM.30.1.CO.
Hazardous Materials Transportation	HM.50.1.CO. through HM.50.4.CO.
(NOTE: The state has adopted the Federal regulations pertaining to hazardous materials transportation (49 CFR, Parts 107, 171, 172, 173, 177, 178, 180, 387, and Parts 390 - 397, as revised 1 November 2000 (8 CCR 1507-9, HMT 6)).	

GUIDANCE FOR COLORADO APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
3-1	Specified Quantities of Hazard Types Present on Private Property
3-2	Routes to Be Used for the Transportation of Hazardous Materials Pursuant to Section

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
HM.2 MISSING CHECKLIST ITEMS HM.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>HM.30.</p> <p>RIGHT-TO-KNOW</p> <p>HM.30.1.CO. Facilities that possess specified quantities of hazardous materials on private property must provide a listing of the maximum quantity of those hazardous materials upon request (CRS 29-22-107) [Revised March 2002].</p>	<p>Determine whether the facility (other than U. S. Armed Forces and State militia) possesses any hazardous materials on private property that meet or exceed the specified quantity in Appendix 3-1.</p> <p>Verify that, upon request of the following agencies, the facility provides a listing of the maximum quantity of each such hazardous material reasonably anticipated to be present on the property at any time to:</p> <ul style="list-style-type: none"> - the designated emergency response authority - the waste management division of the Department of Health - the local fire department, when requested. <p>Verify that the facility annually updates the listing of hazardous materials.</p> <p>(NOTE: The requirements of this checklist item do not apply to:</p> <ul style="list-style-type: none"> - motor fuel products in quantities: <ul style="list-style-type: none"> - less than 42,000 gal in underground storage - less than 620 gal in one aboveground tank - less than 1340 gal in combination in aboveground storage tanks - hazardous substances located on residential, personal, or agricultural property - any person who has specific arrangements with a designated emergency response authority for responding to hazardous substance incidents - hazardous materials in transportation that are subject to the provisions of article 2.1 to title 40 Colorado Revised Statutes - the U.S. Armed Forces or the State militia - explosives in forms prescribed by the official U.S. Pharmacopia - the sale, possession, or use of fireworks - the possession, transportation, and use of small arms ammunition - the possession, storage, and transportation of not more than 50 lb of black powder and 2000 small arms primers for handloading of small arms ammunition for personal use unless otherwise regulated by the local jurisdiction - the transportation and use of explosives or blasting agents by: <ul style="list-style-type: none"> - the U.S. Bureau of Mines - the Federal Bureau of Investigation - the U.S. Secret Service - the U.S. Department of the Treasury - a police or fire department acting in its official capacity - special industrial explosive devices that in the aggregate contain less than 50 lb of explosives.)

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
HM.50. HAZARDOUS MATERIALS TRANSPORTATION	
HM.50.1.CO. [Deleted March 2009].	(NOTE: Regulation repealed; state requirements now identical to Federal requirements in 49 CFR.)
HM.50.2.CO. Transporters of hazardous materials by motor vehicle over public roads must have a permit (8 CCR 1507-25, Part II, HMP 2) [Revised June 1998; Revised April 2000; Revised March 2009; Citation Revised March 2010].	(NOTE: Hazardous materials transporters operating in Colorado must obtain a motor carrier identification number under 49 CFR 390.19 prior to submission of their annual permit application.) Verify that each transporter has a valid Hazardous Materials Transportation Permit. Verify that if the transporter increases the number of vehicles that it is using to transport hazardous materials, it immediately notifies the Public Utilities Commission in writing. Verify that no annual permit has been altered, amended or copied, except by written authorization by the Public Utilities Commission, or in the case of a single trip permit, by an enforcement official.
HM.50.3.CO. Transporters of hazardous materials by motor vehicle over public roads must meet specific accident notification requirements (8 CCR 1507-25, Part I, HMT 3) [Revised March 2009; Citation Revised March 2010].	Verify that the driver of a motor vehicle transporting hazardous materials as cargo which is involved in a hazardous material spill, whether intentional or unintentional, gives immediate notice of the location of such spill and such other information as necessary to the nearest law enforcement agency. Verify that the that the driver of a motor vehicle transporting hazardous materials as cargo which is involved in an incident that may result in a potential spill, gives immediate notice of the incident location and such other information as necessary to the nearest law enforcement agency. Verify that the driver of a motor vehicle involved in a spill of hazardous material from a fuel tank that provides fuel for the motor vehicle and/or equipment thereon, gives immediate notice of the location of such spill and such other information as necessary to the nearest law enforcement agency. Verify that, as soon as possible after the initial notification of the spill/incident to the nearest law enforcement agency, the driver or a company representative

COMPLIANCE CATEGORY: HAZARDOUS MATERIALS MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>HM.50.4.CO. Transporters that use motor vehicles defined as “longer vehicle combinations” to transport hazardous materials must meet specific requirements (8 CCR 1507-25, Part II, HMP 5) [Revised March 2009].</p>	<p>provides the same required information to the:</p> <ul style="list-style-type: none"> - Colorado State Patrol at (303) 239-4501 - Colorado Department of Public Health and Environment at (877) 518-5608 (Environmental Spill Reporting Line). <p>Verify that longer vehicle combinations (defined as any of a number of vehicle configurations including a truck tractor as a power unit and multiple trailer combinations) do not transport the following specified hazardous material types and quantities.</p> <ul style="list-style-type: none"> - any quantity of a material within the hazard classes specified in 49 CFR 172.504, Table 1 - any material, unless otherwise specified herein, within the hazardous classes specified in 49 CFR 172.504, Table 2, that: <ul style="list-style-type: none"> - exceeds 55 gallons per package - is transported in bulk quantities (containment system in excess of 3500 water gallons), except as provided in paragraph 6(B) - is classified as a "Poison - Inhalation Hazard" as defined in 49 CFR, Part 173.133 (b) - requires evacuation of populated areas as specified in the 2003 North American Emergency Response Guidebook. <p>(NOTE: The following petroleum based products may be transported in longer vehicle combinations:</p> <ul style="list-style-type: none"> - gasoline - diesel fuel - crude oil - liquefied petroleum gas - aviation fuel.)

Appendix 3-1

Specified Quantities of Hazard Types Present on Private Property (Colorado Revised Statutes, Title 29, Article 22, 29-22-107)

Hazard Type	Quantity
Class A or B explosive	Any quantity
Class C explosive	50 lb
Etiological agent	Any quantity
Water reactive flammable solid	5 lb
Pyrophoric material*	5 lb
Organic/inorganic peroxide	50 lb
Poison A or poison B	100 lb or 15 gal
Flammable liquid other than a pyrophoric liquid	700 lb or 120 gal
Compressed flammable gas other than liquefied petroleum gases	3000 ft ³ or more at one atmosphere at 70 deg F
Liquefied petroleum gases	Any installation exceeding 18,000 gal water capacity
Oxidizer	200 lb or 120 gal
Combustible liquid:	
Class I	120 gal
Class II	240 gal
Class III	500 gal
Corrosive material	200 lb or 120 gal (unless a lesser amount is specified in 49 CFR 172.101)
Irritating material	200 lb or 120 gal

* Pyrophoric material is any material that ignites spontaneously in dry or moist air at or below 130 deg F.

Appendix 3-2

Routes to Be Used for the Transportation of Hazardous Materials

(HMR 8 CCR 1507-25, Part III, HMR 8) [Added April 2003; Citation Revised March 2009; Revised March 2010]

A. North - South Routes:

1. Colorado 9 from US 40 in Kremmling to Interstate 70 in Silverthorne.
2. Colorado 13 from Wyoming to County Road 183 North of Craig.
3. Colorado 13 from US 40 West of Craig South to US 6 West of Rifle.
4. Colorado 17 from US 285 near Mineral Hot Springs to US 160 near Alamosa.
5. Interstate 25 from Wyoming to New Mexico.
6. Colorado 47 from Interstate 25 to the junction of US 50/Colorado.
7. Colorado 71 from Colorado 14 to US 24 in Limon (East junction).
8. Colorado 71 from US 24 in Limon (West junction) to US 50 near Rocky Ford.
9. Colorado 79 from Colorado 52 to Interstate 70 at Bennett.
10. Colorado 83 from US 24 to Colorado 115.
11. Colorado 91 from Interstate 70 to US 24 near Leadville.
12. Colorado 113 from Nebraska to US 138.
13. Colorado 115 from Colorado 83 to US 50.
14. Colorado 119 from Colorado 157 to Colorado 52.
15. Colorado 125 from Wyoming to US 40 West of Granby.
16. Colorado 127 from Wyoming to Colorado 125.
17. US 138 from Colorado 113 to U.S. 6 (Chestnut St.) in Sterling.
18. Colorado 139 from Colorado 64 in Rangely to Interstate 70 near Loma.
19. Colorado 141 from Interstate 70 business loop near Grand Junction to US 50.
20. Colorado 141 from US 50 to US 491.
21. Colorado 157 from US 36 to Colorado 119.
22. Interstate 225 from Interstate 70 to Interstate 25.
23. US 287 from US 40 in Kit Carson to Oklahoma.
24. US 285 from US 160 in Alamosa to New Mexico.
25. US 285 from Colorado 470 to Colorado 112.
26. US 491 from Utah to New Mexico.
27. US 285 from Colorado 112 to US 160.
28. US 85 from Wyoming to Interstate 76.
29. Colorado 71 from Nebraska to Colorado 14.
30. US 385 from Interstate 76 in Julesburg to US 40 in Cheyenne Wells.
31. The City of Lamar's Second Street from US 50/385 to Maple Street.
32. The City of Lamar's Maple Street from Second Street to US 50/287.
33. The City of Craig's Great Divide Road from US 40 North to the city limits.
34. Moffat County Road 7 (Great Divide Road) from the Craig City limits north to Moffat County Road 183.
35. Moffat County Road 183 from Moffat County Road 7 (Great Divide Road) East to Colorado 13.

B. East - West Routes:

1. US 6 (Loveland Pass) from Interstate 70 just East of the Eisenhower/Johnson Tunnels to Interstate 70 at Silverthorne.
2. US 6 from Colorado 13 West of Rifle west to exit/entrance number 87 on Interstate 70.
3. US 6 from State Highway 14 (Main St.) in Sterling to Nebraska.
4. Colorado 10 from Interstate 25 in Walsenburg to US 50 in La Junta.
5. Colorado 14 from US 40 to Colorado 125.
6. Colorado 14 from Interstate 25 to U.S. 6 in Sterling.

7. US 24 from Colorado 91 at Leadville to Interstate 25 in Colorado Springs.
8. US 24 from Colorado 83 to Interstate 70 at West Limon (Exit 359).
9. US 34 from Interstate 25 to Interstate 76.
10. US 34 from the West junction of Colorado 71 to Nebraska.
11. US 36 from Interstate 25 to Colorado 157.
12. US 36 from Interstate 70 in Byers to Colorado 71 at Last Chance.
13. US 40 from Utah to the intersection of Colorado 13 West of Craig.
14. US 40 from Moffat County Road CG 2 (First Street) just East of Craig to Interstate 70.
15. US 24 business route from US 24 on the West side of Limon to the West junction of Colorado 71.
16. US 40 from I-70 (Exit 363) in Limon to Kansas.
17. US 24 business route from the East junction of Colorado 71 (in Limon) to I-70 (Exit 363).
18. US 50 from the North junction of Colorado 141 near Grand Junction to Kansas.
19. Colorado 52 from Colorado 119 to Colorado 79.
20. Colorado 64 from US 40 in Dinosaur to Colorado 13.
21. Interstate 70 from Utah to US 6 at Silverthorne (Loveland Pass).
22. Interstate 70 from US 6 just East of Loveland Pass to Interstate 25.
23. Interstate 70 from Interstate 270 to Kansas.
24. Interstate 70 business route from Interstate 70 East of Grand Junction to Colorado 141.
25. Interstate 76 from Interstate 25 to Nebraska.
26. Colorado 112 from US 285 to US 160.
27. US 160 from New Mexico to I-225 business route in Walsenburg, South to Exit 49 on Interstate 25.
28. Interstate 270 from Interstate 70 to Interstate 76.
29. Colorado 470 from US 285 to Interstate 70.
30. US 550 from US 160 to New Mexico.
31. The City of Craig's 1st Street from Colorado 13 East to the city limits at Colorado 394.
32. Moffat County Road CG 2 (First Street) from the Craig City limits at Colorado 394 East to US 40.

SECTION 4

HAZARDOUS WASTE MANAGEMENT

Colorado Supplement, March 2010

This Section covers the state requirements for Hazardous Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Aerosol Can* - a container in which gas under pressure is used to aerate and dispense any material through a valve in the form of a spray or foam (6 CCR 1007-3, Section 273.9) [Added March 2006].
- *Department* - the Department of Public Health and Environment (6 Colorado Code of Regulations (CCR) 1007-3, Section 260.10).
- *Disposal Facility* – (Please note that for State siting purposes applicable to Part II, Title 25, Article 15 C.R.S., Disposal site means all contiguous land and, including publicly-owned land, used for hazardous waste disposal under common ownership.) a facility or part of a facility at which hazardous waste is intentionally placed into or on any land or water, and at which waste will remain after closure. For the purposes of the application of the land disposal restrictions found in Part 268 and for the purposes of the application of the minimum technology requirements of 40 CFR 268.5(h)(2), or of the minimum technology requirements of Subparts K, L, M, or N, or the groundwater protection requirements of Subpart F or the closure and post-closure requirements of Subpart G of Part 264 or 265 of these regulations, the term "disposal facility" does not include a corrective action management unit into which remediation wastes are placed (6 CCR 1007-3, Section 260.10) [Added March 2007].
- *Domestic Waste Water* - untreated sanitary wastes that pass through a sewer system (6 CCR 1007-3, Section 260.10).
- *Electronic Component* - components, subassemblies or other parts derived from the disassembly of electronic devices. While many waste electronic devices do not fail the toxicity test for heavy metals if left intact, individual components generated by disassembly may fail the toxicity test (6 CCR 1007-3, Section 273.9) [Added March 2006].
- *Electronic Device* - electronic equipment that contains one or more electronic circuit boards or other complex circuitry, including but not limited to computer monitors, televisions, central processing units (CPUs), laptops, printers, terminals, mainframes and stereo equipment (6 CCR 1007-3, Section 273.9) [Added March 2006].
- *Governmental Unit* - the State of Colorado, every county, city and county, municipality, school district, special district and authority located in the state, every public body corporately created or established under the constitution or any law of this state, and every board, commission, department, institution, or agency of any of the foregoing or of the United States (6 CCR 1007-3, Section 260.10).
- *Hazardous Constituent* - any constituent identified in Appendix VIII of 6 Colorado Code of Regulations (CCR) 1007-3, Part 261 (6 CCR 1007-3, Section 260.10).
- *Hazardous Waste Disposal Site* - any disposal site that is subject to the permit requirements of that Section [RCRA Section. 3005] (6 CCR 1007-3, Section 260.10).

- *Hazardous Waste Management* - the systematic control of the collection, source separation, storage, transportation, treatment, recovery, and disposal of hazardous waste (6 CCR 1007-3, Section 260.10).
- *Hazardous Waste Management Unit* - contiguous area of land on or in which hazardous waste is placed, or the largest area in which there is significant likelihood of mixing hazardous waste constituents in the same area. Examples of hazardous waste management units include a surface impoundment, a waste pile, a land treatment area, a landfill cell, an incinerator, a tank and its associated piping and underlying containment system, and a container storage area. A container alone does not constitute a unit; the unit includes containers and the land or pad upon which they are placed (6 CCR 1007-3, Section 260.10).
- *Large Quantity Handler of Universal Waste* - a universal waste handler (as defined in this section) who accumulates 5,000 kilograms or more total of universal waste (batteries, pesticides, mercury-containing devices, aerosol cans, lamps, etc., calculated collectively) at any time. This designation as a large quantity handler of universal waste is retained through the end of the calendar year in which the 5,000 kilogram limit is met or exceeded (6 CCR 1007-3, Section 273.9) [Added March 2006; Revised March 2008].
- *Mercury-containing Device* - any electrical or medical product or component (excluding batteries and lamps) which contains elemental mercury that is necessary for its operation where the mercury acts as a conductor of temperature, pressure or electricity. The mercury must be housed within an outer metal, glass or plastic casing (6 CCR 1007-3, Section 273.9) [Added March 2006].
- *Operation* - when used in connection with hazardous waste management, the use of procedures, equipment, personnel, and other resources to provide hazardous waste management (6 CCR 1007-3, Section 260.10).
- *Publicly Owned Land* - any land owned by the Federal government or any agency thereof or land owned by the State or any agency or political subdivision thereof (6 CCR 1007-3, Section 260.10).
- *Self-Certification Checklist* - a checklist of regulatory requirements under 6 CCR 1007-3 that are applicable to specific types of hazardous waste generators (e.g., dry cleaners, auto body shops, hospitals, etc.) (6 CCR 1007-3, Section 260.10) [Added March 2007].
- *Small Quantity Generator (SQG)* - a generator who generates between 100kg and 1,000 kg of hazardous waste per calendar month and accumulates no more than 6,000 kg of hazardous waste at any time (6 CCR 1007-3, Section 260.10) [Added March 2004].
- *Small Quantity Handler of Universal Waste* - a universal waste handler (as defined in this section) who does not accumulate 5,000 kilograms or more total of universal waste (batteries, pesticides, mercury-containing devices, aerosol cans, lamps, etc., calculated collectively) at any time (6 CCR 1007-3, Section 273.9) [Added March 2006].
- *Storage* - in connection with hazardous waste, the containment of hazardous waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of the hazardous waste. The term does not apply to any hazardous waste generation if such waste is retained on the site by the Generator in quantities or for time periods exempted by rules and regulations promulgated by the Commission (6 CCR 1007-3, Section 260.10).
- *Transfer Facility* - any transportation related facility including loading docks, parking areas, storage areas and other similar areas where shipments of hazardous waste are held during the normal course of transportation (6 CCR 1007-3, Section 260.10) [Added May 1998].

- *Treatment, Storage, or Disposal Facility (TSDF)* - a location at which hazardous waste is subjected to treatment, storage, or disposal and may include a facility where hazardous waste is generated (6 CCR 1007-3, Section 260.10).
- *Universal Waste* - any of the following hazardous wastes that are subject to the universal waste requirements of Part 273: (6 CCR 1007-3, Section 273.9) [Added March 2006]
 - a. Batteries as described in Section 273.2(a);
 - b. Pesticides as described in Section 273.2(b);
 - c. Mercury-containing devices as described in Section 273.2(c)(NOTE: The requirements for universal waste do not apply to equipment and devices from which the mercury-containing components have been removed);
 - d. Aerosol cans as described in Section 273.2(d);
 - e. Lamps as described in Section 273.2(e); and
 - f. Electronic devices and electronic components as described in Section 273.2(f).

**HAZARDOUS WASTE MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

(NOTE: The only requirements included here are different from or more stringent than the Federal requirements.)

Missing Checklist Items	HW.2.1.CO.
All Sizes of Generators	HW.10.1.CO. and HW.10.2.CO.
Conditionally Exempt Small Quantity Generators (CESQG)	HW.15.1.CO.
Small Quantity Generators (SQGs)	
Personnel Training	HW.25.1.CO.
Satellite Accumulation Points	HW.35.1.CO. through HW.35.3.CO.
State Specific Generator Category	HW.50.1.CO. through HW.50.4.CO.
Generators	
Contingency Plans and Emergency Coordinators	HW.65.1.CO.
Satellite Accumulation Points	HW.75.1.CO. through HW.75.3.CO.
Transfer Facilities	HW.95.1.CO. through HW.95.5.CO.
All TSDFs	HW.145.1.CO. and HW.145.2.CO.
Additional Requirements for Permitted TSDFs	HW.205.1.CO. through HW.205.14.CO.
Small Quantity Universal Waste Handlers	
Specific Wastes	HW.290.1.CO. through HW.290.9.CO
Containers	HW.310.1.CO. through HW.310.4.CO.
Large Quantity Universal Waste Handlers	
Specific Wastes	HW.380.1.CO. through HW.380.9.CO
Containers	HW.400.1.CO. through HW.400.4.CO

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HW.2 MISSING CHECKLIST ITEMS HW.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

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<p>HW.10</p> <p>ALL SIZES OF GENERATORS</p> <p>HW.10.1.CO. Generators of solid waste must determine if the wastes are hazardous wastes (6 CCR 1007-3, Section 261.33) [Added March 2007; Revised March 2010].</p> <p>HW.10.2.CO. Any generator of hazardous waste who receives a Self-Certification Checklist from the Department must complete and return the checklist (6 CCR 1007-3, Section 261.5 (b) (4) and 262.43 (b) (1) [Added March 2007].</p>	<p>Verify that generators of solid waste determine if the wastes are hazardous.</p> <p>(NOTE: Determination of whether or not a waste is a hazardous waste can be done through one of the following:</p> <ul style="list-style-type: none"> - knowledge of all the constituents of the waste (MSDSs) and whether it is listed in 6 CCR 1007-3, subpart D, Lists of Hazardous Wastes - laboratory analysis - knowledge of processes and/or materials used.) <p>(NOTE: Colorado's regulations are more stringent than the federal regulations of 40 CFR 261.33(d) with regard to application of P and U-listed waste codes to unused commercial chemical products. According to 40 CFR 261.33(d), the listed chemical must be the "sole active ingredient" to meet the listing description. In Colorado, formulations may have more than one active ingredient and still meet the listing description.)</p> <p>Verify that generator of hazardous waste who receives a Self-Certification Checklist from the Department complete and return the checklist within the time specified in the instructions provided by the Department.</p> <p>(NOTE: Department shall provide generators a reasonable amount of time to complete and return a checklist. At a minimum, the generator shall have 14 days from the date of receipt to return the checklist. A checklist is deemed returned on the date it is received by the Department. The Department may provide an extension of time to complete and return a checklist upon request.)</p>

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<p>HW.15</p> <p>CONDITIONALLY EXEMPT SMALL QUANTITY GENERATORS (CESQG)</p> <p>HW.15.1.CO. A conditionally exempt small quantity generator of hazardous waste codes F001, F002, F004, and/or F005 must meet notification requirements (6 CCR 1007-3, Section 261.5 (b)) [Added March 2007; Revised March 2009].</p>	<p>Verify that a conditionally exempt small quantity generator of 3 gallons or more in a calendar year of hazardous waste codes F001, F002, F004, and/or F005 files a Colorado Hazardous Waste Notification Form with the Department.</p> <p>Verify that a conditionally exempt small quantity generator complies with 40 CFR 265.31(a), that is, maintains and operates their facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents.</p>

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<p>SMALL QUANTITY GENERATORS (SQGs)</p> <p>HW.25. Personnel Training</p> <p>HW.25.1.CO. SQG personnel are required to be thoroughly familiar with proper waste handling and emergency procedures (6 CCR 1007-3, Section 262.34(d)(5)(iii)) [Added March 2009].</p>	<p>Verify that the generator ensures that all employees are provided with hazardous waste training, including proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p> <p>(NOTE: The Federal regulation only requires that employees be "thoroughly familiar with" proper waste handling etc. Colorado requires training, and proof of training.)</p> <p>Verify that training is provided in a way that ensures compliance with the requirements of State and Federal HW regulations, and that documentation that this training has been provided is retained on-site for all current employees.</p>

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<p>SMALL QUANTITY GENERATORS (SQGs)</p> <p>HW.35. Satellite Accumulation Points</p> <p>HW.35.1.CO. Containers at SQG satellite accumulation points must be labeled and moved immediately when full (6 CCR 1007-3, Section 262.34(g) (1) and (2)). [Revised May 1998].</p> <p>HW.35.2.CO. SQG satellite accumulation points must meet specific storage and management requirements (6 CCR 1007-3, Section 262.34(g) (1) (i)) [Revised May 1998].</p>	<p>(NOTE: The state requires containers to be labeled and moved immediately; Federal regulations allow three days for full containers to be moved from satellite accumulation points to container storage areas.)</p> <p>Verify that the waste container is immediately marked with the date on which the 55 gal or 1 qt limit is exceeded and is moved to a container storage area.</p> <p>(NOTE: Satellite accumulation points must comply with Part 265, Subpart I, container requirements. The following checklist represents the requirements for container storage.)</p> <p>Verify that, if a container holding hazardous waste is not in good condition or if it begins to leak, the contents are transferred to a container in good condition or managed in some other appropriate way.</p> <p>Verify that containers are made of or lined with a material that is compatible with the hazardous waste so that the ability of the container to contain the waste is not impaired.</p> <p>Verify that containers are always closed except when waste are added or removed.</p> <p>Verify that containers are not opened, handled, or stored in a manner that may rupture the container or cause it to leak.</p> <p>Verify that containers holding ignitable or reactive waste are located at least 50 ft from the property line.</p> <p>Verify that the container storage area is inspected at least weekly for leaks and for container deterioration.</p> <p>Verify that incompatible wastes or incompatible wastes and materials are not placed in the same container, unless minimum safety practices are observed.</p> <p>Verify that hazardous waste is not placed in an unwashed container that previously held an incompatible waste or material.</p>

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<p>HW.35.3.CO. SQG satellite accumulation points must meet specific safety requirements (6 CCR 1007-3, Section 262.34(g) (1) (iii)).</p>	<p>Verify that containers holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments are separated from other materials or protected from them by means of a dike, berm, wall, or other device.</p> <p>(NOTE: SQG satellite accumulation points must comply with Part 265, Subpart C, preparedness and prevention requirements. The following checklists represent these requirements.)</p> <p>Verify that the following equipment (unless none of the hazards posed by waste handled could require a particular kind of equipment) is available, in working order, and tested and maintained to insure proper operation in an emergency:</p> <ul style="list-style-type: none"> - internal communication or alarm system capable of providing immediate emergency instruction to personnel - a telephone or hand-held, two-way radio - portable fire extinguishers and special extinguishing equipment (foam, inert gas, or dry chemicals) - spill control equipment - fire hydrants or other source of water with adequate volume and pressure, foam producing equipment, automatic sprinklers, or water spray. <p>Verify that, whenever hazardous waste is being poured or otherwise handled, all personnel involved in the operation have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee (unless such a device is not required because none of the hazards posed by the waste handled could require an internal alarm or emergency communication device).</p> <p>Verify that, if there is ever just one employee on the premises during operation, he has immediate access to a telephone or hand-held, two-way radio to summon external emergency assistance (unless such a device is not required because none of the hazards posed by the waste handled could require an emergency communication device).</p> <p>Verify that aisle space is maintained to allow unobstructed movement of equipment, spill control equipment, and decontamination equipment (unless aisle space is not needed for any of the listed purposes).</p> <p>Verify that police, fire departments, and emergency response teams are familiar with the layout of the facility, properties of the waste handled, and general operations as appropriate for the type of waste and the potential need for these services.</p> <p>Verify that the local hospital is familiar with the site and the types of injuries that could result in an emergency as appropriate for the type of waste and the potential</p>

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	need for these services.

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STATE SPECIFIC GENERATOR CATEGORY HW.50. HW.50.1.CO. Members of the Colorado Environmental Leadership Program and EPA National Environmental Performance Track Program must meet specific management requirements to accumulate hazardous waste without a permit or interim status (6 CCR 1007-3, Section 262.34 (k) (1) through (4), (l) and (m)) [Added March 2006].	<p>(NOTE: A member of the Colorado Environmental Leadership Program and EPA National Environmental Performance Track Program who generates 1000 kilograms (kg) or greater of hazardous waste per month (or one kilogram or more of acute hazardous waste) may accumulate hazardous waste on-site without a permit or interim status for an extended period of time, provided that they meet the requirements of 262.34 (k).)</p> <p>Verify that the generator accumulates the hazardous waste for no more than 180 days, or for no more than 270 days if the generator transports the waste (or offer the waste for transport) more than 200 miles from the generating facility.</p> <p>Verify that the generator first notifies the Regional Administrator of EPA and the Colorado Department of Public Health and Environment in writing of its intent to begin accumulation of hazardous waste for extended time periods under the provisions of 262.34 (k).</p> <p>Verify that the advance notice includes the following:</p> <ul style="list-style-type: none"> - name and EPA ID number of the facility, and specification of when the facility will begin accumulation of hazardous wastes for extended periods of time in accordance with this section - a description of the types of hazardous wastes that will be accumulated for extended periods of time, and the units that will be used for such extended accumulation - a statement that the facility has made all changes to its operations, procedures, including emergency preparedness procedures, and equipment, including equipment needed for emergency preparedness, that will be necessary to accommodate extended time periods for accumulating hazardous wastes - if the generator intends to accumulate hazardous wastes on-site for up to 270 days, a certification that a facility that is permitted (or operating under interim status) under Part 100 of these regulations to receive these wastes is not available within 200 miles of the generating facility. <p>Verify that the waste is managed in:</p> <ul style="list-style-type: none"> - containers, in accordance with the applicable requirements of subparts I, AA, BB, and CC of Part 265 and Section 264.175 of these regulations - tanks, in accordance with the applicable requirements of subparts J, AA, BB, and CC of Part 265 of these regulations, except for Section 265.197(c) and

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<p>HW.50.2.CO. Labeling and documentation requirements must be met by Members of the Colorado Environmental Leadership Program and EPA National Environmental Performance Track Program (6 CCR 1007-3, Section 262.34 (k) (5) and (6)) [Added March 2006].</p>	<p>Section 265.200</p> <ul style="list-style-type: none"> - drip pads, in accordance with subpart W of Part 265 of these regulations - containment buildings, in accordance with subpart DD of Part 265 of these regulations. <p>Verify that the quantity of hazardous waste that is accumulated for extended time periods at the facility does not exceed 30,000 kg.</p> <p>(NOTE: If hazardous wastes remain on-site at a Colorado Environmental Leadership Program and EPA National Environmental Performance Track member facility for longer than 180 days (or 270 days, if applicable) due to unforeseen, temporary, and uncontrollable circumstances, an extension to the extended accumulation time period of up to 30 days may be granted at the discretion of the Department and EPA on a case-by-case basis.)</p> <p>Verify that, if a member of the Colorado Environmental Leadership Program and EPA National Environmental Performance Track withdraws from either program, or if a generator's membership in either program is terminated by the Department or EPA, the generator returns to compliance with all otherwise applicable hazardous waste regulations as soon as possible, but no later than six months after the date of withdrawal or termination.</p> <p>Verify that the generator maintains the following records at the facility for each unit used for extended accumulation times:</p> <ul style="list-style-type: none"> - a written description of procedures to ensure that each waste volume remains in the unit for no more than 180 days (or 270 days, as applicable) - a description of the waste generation and management practices at the facility showing that they are consistent with the extended accumulation time limit - documentation that the procedures are complied with - documentation that the unit is emptied at least once every 180 days (or 270 days, if applicable). <p>Verify that each container or tank that is used for extended accumulation time periods is labeled or marked clearly with the words "Hazardous Waste," and for each container the date upon which each period of accumulation begins is clearly marked and visible for inspection.</p>
<p>HW.50.3.CO. Management requirements must be met by Members of the Colorado Environmental Leadership Program and EPA National Environmental Performance</p>	<p>Verify that the generator complies with the requirements for owners and operators in subparts C (Preparedness and Prevention) and D (Contingency Plan and Emergency Procedures) in Part 265, with Section 265.16 (personal training) , and with Section 268.7(a)(5) (written waste analysis plan which describes the procedures necessary to comply with treatment standards).</p>

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<p>Track Program (6 CCR 1007-3, Section 262.34 (k) (7) and (8)) [Added March 2006].</p> <p>HW.50.4.CO. Reporting requirements must be met by Members of the Colorado Environmental Leadership Program and EPA National Environmental Performance Track Program (6 CCR 1007-3, Section 262.34 (k) (9)) [Added March 2006].</p>	<p>(NOTE: In addition, the generator is exempt from all the requirements in subparts G and H of Part 265 of these regulations, except for Section 265.111(Closure performance standards) and 265.114 (disposal of decontamination of equipment, structures, and soils).)</p> <p>Verify that the generator has implemented pollution prevention practices that reduce the amount of any hazardous substances, pollutants, or contaminants released to the environment prior to its recycling, treatment, or disposal.</p> <p>Verify that the generator includes the following with its EPA National Environmental Performance Track Annual Performance Report, which is submitted to the EPA along with a copy to the Department:</p> <ul style="list-style-type: none"> - information on the total quantity of each hazardous waste generated at the facility that has been managed in the previous year according to extended accumulation time periods - information for the previous year on the number of off-site shipments of hazardous wastes generated at the facility, the types and locations of destination facilities, how the wastes were managed at the destination facilities (e.g., recycling, treatment, storage, or disposal), and what changes in on-site or off-site waste management practices have occurred as a result of extended accumulation times or other pollution prevention provisions of this section - information for the previous year on any hazardous waste spills or accidents occurring at extended accumulation units at the facility, or during off-site transport of accumulated wastes - if the generator intends to accumulate hazardous wastes on-site for up to 270 days, a certification that a facility that is permitted (or operating under interim status) under Part 100 of these regulations to receive these wastes is not available within 200 miles of the generating facility.

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<p>GENERATORS</p> <p>HW.65. Contingency Plans and Emergency Coordinators</p> <p>HW.65.1.CO. Generators must have a contingency plan with Colorado-specific additions (6 CCR 1007-3, Section 265.52(g) and (h)) [Added March 2009].</p>	<p>Verify that the plan identifies:</p> <ul style="list-style-type: none"> - the fire protection district responsible for providing fire protection services to the facility, or state that the facility is not within a fire protection district but is operating under its own fire protection plan that has been approved by the Department, and - the local emergency planning committee for the area in which the facility is located. <p>Verify that the plan includes the location of all hazardous waste accumulation areas at the facility.</p> <p>(NOTE: These requirements are in addition to the Federal requirements at 40 CFR 262.52.)</p>

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GENERATORS HW.75. Satellite Accumulation Points HW.75.1.CO. Generators with satellite accumulation points must meet state-specific management requirements (6 CCR 1007-3, Section 262.34(c) (1) (iv) and (c) (2) [Revised May 1998]. HW.75.2.CO. Satellite accumulation points must meet specific storage and management requirements (6 CCR 1007-3, Section 262.34(c) (1) (i)) [Revised May 1998].	<p>Verify that the location of each accumulation area is designated in the contingency plan.</p> <p>Verify that when the 55 gal or 1 qt of acutely hazardous waste limit is exceeded, the generator immediately complies with all applicable requirements for 90-day storage.</p> <p>(NOTE: The state requires containers to be labeled and moved immediately; Federal regulations allow three days for full containers to be moved from satellite accumulation points to container storage areas.)</p> <p>(NOTE: Satellite accumulation points must comply with Part 265, Subpart I, container requirements. The following checklist represents the requirements for container storage.)</p> <p>Verify that, if a container holding hazardous waste is not in good condition or if it begins to leak, the contents are transferred to a container in good condition or managed in some other appropriate way.</p> <p>Verify that containers are made of or lined with a material that is compatible with the hazardous waste so that the ability of the container to contain the waste is not impaired.</p> <p>Verify that containers are always closed except when waste are added or removed.</p> <p>Verify that containers are not opened, handled, or stored in a manner that may rupture the container or cause it to leak.</p> <p>Verify that containers holding ignitable or reactive waste are located at least 50 ft from the property line.</p> <p>Verify that the container storage area is inspected at least weekly for leaks and for container deterioration.</p> <p>Verify that incompatible wastes or incompatible wastes and materials are not placed in the same container, unless minimum safety practices are observed.</p> <p>Verify that hazardous waste is not placed in an unwashed container that</p>

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<p>HW.75.3.CO. Satellite accumulation points must meet specific safety, contingency and emergency planning, and personnel training requirements (6 CCR 1007-3, Section 262.34(c) (1) (iii)).</p>	<p>previously held an incompatible waste or material.</p> <p>Verify that containers holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments are separated from other materials or protected from them by means of a dike, berm, wall, or other device.</p> <p>(NOTE: Satellite accumulation points must comply with 265.16, personnel training requirements, found in HW.60 of the U.S. TEAM Guide, and with Part 265, Subpart D, contingency and emergency planning requirements, found in HW.75 of the U.S. TEAM Guide.)</p> <p>(NOTE: Satellite accumulation points must comply with Part 265, Subpart C, preparedness and prevention requirements. The following checklists represent these requirements.)</p> <p>Verify that the following equipment (unless none of the hazards posed by waste handled could require a particular kind of equipment) is available, in working order, and tested and maintained to insure proper operation in an emergency:</p> <ul style="list-style-type: none"> - internal communication or alarm system capable of providing immediate emergency instruction to personnel - a telephone or hand-held two-way radio - portable fire extinguishers and special extinguishing equipment (foam, inert gas, or dry chemicals) - spill control equipment - fire hydrants or other source of water with adequate volume and pressure, foam producing equipment, automatic sprinklers, or water spray. <p>Verify that, whenever hazardous waste is being poured or otherwise handled, all personnel involved in the operation have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee (unless such a device is not required because none of the hazards posed by the waste handled could require an internal alarm or emergency communication device).</p> <p>Verify that, if there is ever just one employee on the premises during operation, he/she has immediate access to a telephone or hand-held two-way radio to summon external emergency assistance (unless such a device is not required because none of the hazards posed by the waste handled could require an emergency communication device).</p> <p>Verify that aisle space is maintained to allow unobstructed movement of equipment, spill control equipment, and decontamination equipment (unless aisle space is not needed for any of the listed purposes).</p>

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	<p>Verify that police, fire departments, and emergency response teams are familiar with the layout of the facility, properties of the waste handled, and general operations as appropriate for the type of waste and the potential need for these services.</p> <p>Verify that the local hospital is familiar with the site and the types of injuries, which could result in an emergency as appropriate for the type of waste and the potential need for these services.</p>

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<p>HW.95.4.CO. Transporters who mix hazardous wastes at transfer facilities must meet specific facility requirements (6 CCR 1007-3, Section 263.12(e)) [Added May 1998].</p>	<p>container at a transfer facility:</p> <ul style="list-style-type: none"> - makes a hazardous waste determination of the resulting waste mixture - complies with the manifest requirements with regard to the resulting waste mixture - complies with the pre-transport packaging, labeling, marking, and placarding requirements with regard to the resulting waste mixture - complies with the recordkeeping and reporting for generators for manifests and exception reporting with regard to the resulting waste mixture. <p>Verify that a transporter of hazardous waste who mixes hazardous wastes of different applicable DOT shipping descriptions by placing them into a single container at a transfer facility located in Colorado complies with the following requirements (with regard to the containers into which the resulting waste mixture is placed):</p> <ul style="list-style-type: none"> - use a container made of or lined with materials which will not react with, and are otherwise compatible with, the hazardous wastes to be mixed, so that the ability of the container to contain the resulting waste mixture is not impaired - if a container holding the resulting waste mixture is not in good condition, or if it begins to leak, transfer the resulting waste mixture from this container to a container that is in good condition - the container holding the resulting waste mixture is always kept closed during storage, except when it is necessary to add or remove waste, and is not opened, handled, or stored in a manner which may rupture the container or cause it to leak - incompatible wastes, or incompatible wastes and materials are not placed in the same container, and a storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments is separated from the other materials or protected from them by means of a dike, berm, wall or other device. <p>Verify that the transporter manages all hazardous waste placed in a container in accordance with the requirements of Subpart CC of Part 265 (see HW.70.7 through HW.70.12 in the US TEAM Guide).</p> <p>(NOTE: See HW.95.1.CO. for applicability.)</p> <p>Verify that for transporters who mix hazardous wastes of different applicable DOT shipping descriptions by placing them into a single container, that portion of the facility where the wastes are mixed is maintained and operated to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or water which could threaten human health or the environment.</p>

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<p>HW.95.5.CO. Transfer facilities must follow specific spill response procedures (6</p>	<p>(NOTE: If the transfer facility is not provided with fire protection services by a fire protection district or municipal fire department, the portion of the transfer facility where mixing occurs will be maintained and operated in accordance with a plan for providing its own fire protection and prevention which has been approved by the Department.)</p> <p>Verify that the portion of the transfer facility where mixing occurs is equipped with the following, unless none of the hazards posed by the mixing could require a particular kind of equipment specified below:</p> <ul style="list-style-type: none"> - a device, such as a telephone (accessible near the area where the mixing occurs) or a hand-held two-way radio, capable of summoning emergency assistance from local police departments, fire departments, or State or local emergency response teams - portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment - water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems. <p>Verify that all communications systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, are tested and maintained as necessary to assure its proper operation in time of emergency.</p> <p>Verify that if there is ever just one employee on the premises while the mixing occurs, he/she has access to a device, such as a telephone (accessible near the area where the mixing occurs) or a hand-held two-way radio, capable of summoning external emergency assistance.</p> <p>Verify that while mixing occurs, the transporter maintains aisle space within the transfer facility to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to the area of mixing in an emergency.</p> <p>Verify that the transporter attempt to makes arrangements with local police, fire and health departments, emergency response teams and committees, and hospitals, to familiarize them with the types of hazardous waste stored at the transfer facility, as appropriate for the type of waste handled at his/her transfer facility and the potential need for the services of these organizations.</p> <p>(NOTE: Where State or local authorities decline to enter into such arrangements, the transporter must document the refusal.)</p> <p>(NOTE: See HW.95.1.CO. for applicability.)</p> <p>Verify that, in the event of a spill of hazardous waste at the transfer facility, the</p>

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CCR 1007-3, Section 263.40) [Added May 1998].	<p>transporter takes appropriate immediate action to protect human health and the environment, and cleans up any spills of hazardous waste at the transfer facility in a timely manner, so that the hazardous waste spill no longer presents a hazard to human health or the environment.</p> <p>Verify that whenever there is a spill, fire, or explosion at a transfer facility, the transporter immediately identifies the character, source, amount, and aerial extent of any spilled materials.</p> <p>Verify that, if the transporter determines that the transfer facility has had a spill exceeding 55 gal, a fire, or an explosion, the transporter reports the findings to the Department within 24 hr, including:</p> <ul style="list-style-type: none"> - name and telephone number of reporter - name, address, and telephone number of facility - date, time, and type of incident (i.e., spill, fire or explosion) - name and quantity of material(s) involved, to the extent known - the extent of injuries, if any - the possible hazards outside the facility to human health or the environment. <p>Verify that, within 15 days after an incident involving a spill exceeding 55 gal, a fire, or an explosion, the transporter submits a written report on the incident to the Department, including:</p> <ul style="list-style-type: none"> - name and telephone number of transporter - name, address, and telephone number of facility - date, time, and type of incident (i.e., spill, fire or explosion) - name and quantity of material(s) involved - the extent of injuries, if any - the possible hazards outside the facility to human health or the environment - an assessment of actual or potential hazards to human health or the environment, where this is applicable - estimated quantity and disposition of recovered material that resulted from the incident. <p>(NOTE: Compliance with these requirements does not relieve transporters from any other obligation to comply with all other federal, state and local reporting and notification requirements concerning chemical spills and releases.)</p>

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<p>HW.145</p> <p>ALL TSDFs</p> <p>HW.145.1.CO. TSDFs contingency plans must meet specific requirements (6 CCR 1007-3, Section 264.52 and 265.52) [Added March 2006; Revised March 2007].</p>	<p>Verify that the contingency plan describes the actions facility personnel take to comply with Section 264.51 and 264.56 in response to fires, explosions, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil surface or ground water at the facility.</p> <p>(NOTE: If the owner or operator has already prepared a Spill Prevention, Control, and Countermeasures (SPCC) Plan in accordance with 40 CFR, Chapter I Part 112, or 40 CFR, Chapter V Part 1510, or some other emergency or contingency plan, he/she need only amend that plan to incorporate hazardous waste management provisions that are sufficient to comply with the requirements of this Part.)</p> <p>Verify that the plan describes arrangements agreed to by local police departments, fire departments, hospitals, contractors, and State and local emergency response teams to coordinate emergency services.</p> <p>Verify that the plan lists names, addresses, and phone numbers (office and home) of all persons qualified to act as emergency coordinator (and this list is kept up to date.</p> <p>(NOTE: Where more than one person is listed, one must be named as primary emergency coordinator and others must be listed in the order in which they will assume responsibility as alternates. For new facilities, this information must be supplied to the Department at the time of certification, rather than at the time of permit application.)</p> <p>Verify that the plan includes a list of all emergency equipment at the facility (such as fire extinguishing systems, spill control equipment, communications and alarm systems (internal and external), and decontamination equipment), where this equipment is required.</p> <p>Verify that the list is kept up to date and includes the location and a physical description of each item on the list, and a brief outline of its capabilities.</p> <p>Verify that the plan includes an evacuation plan for facility personnel where there is a possibility that evacuation could be necessary.</p> <p>Verify that the evacuation plan describes signal(s) to be used to begin evacuation, evacuation routes, and alternate evacuation routes (in cases where the primary routes could be blocked by releases of hazardous waste or fires).</p>

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<p>HW.145.2.CO. TSD operators must keep written operating records at the facility (6 CCR 1007-3, Sections 264.73 and 265.73) [Added March 2008].</p>	<p>Verify that, for interim status TSDs, the plan specifies the fire protection district responsible for providing fire protection services to the facility, or that the facility is not within a fire protection district but is operating under its own fire protection plan that has been approved by the Department and identify the local emergency planning committee for the area in which the facility is located.</p> <p>(NOTE: The main difference between these Colorado requirements and the Federal requirements is that the default retention period for operating records is 5 years (Colorado) instead of 3 years (Federal).)</p> <p>Verify that the TSD has a written operating record.</p> <p>Verify that the following information is recorded, as it becomes available, and maintained in the operating record for 5 yr unless other wise noted:</p> <ul style="list-style-type: none"> - a description and the quantity of each hazardous waste received, and the method(s) and date(s) of its treatment, storage, or disposal at the facility (this information will be maintained in the operating record until closure of the facility) - the location of each hazardous waste within the facility and the quantity at each location including cross-references to manifest document numbers if the waste was accompanied by a manifest (this information will be maintained in the operating record until closure of the facility) - for disposal facilities, the location and quantity of each hazardous waste is recorded on a map or diagram that shows each cell or disposal area including cross-references to manifest document numbers if the waste was accompanied by a manifest (this information will be maintained in the operating record until closure of the facility) - records and results of waste analyses - reports of all the incidents that required the implementation of the contingency plan - records and results of inspections (only a 3-yr retention period) - monitoring, testing or analytical data, and corrective action which are maintained in the operating record for 5 yr, except for records and results pertaining to ground-water monitoring and cleanup which are maintained in the operating record until closure of the facility - for offsite facilities, notices to the generator - all closure cost estimates, and for disposal facilities, all post-closure cost estimates (this information will be maintained in the operating record until closure of the facility) - annual certification that the TSD has a program in place to reduce the volume and toxicity of hazardous waste, and that the proposed method of treatment, storage, or disposal minimizes the present and future threat to human health and the environment - records of the quantities and date of placement for each shipment of hazardous waste placed in land disposal units under an extension to the

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	<p>effective date of any land disposal restriction granted pursuant to 40 CFR 268.5, a petition pursuant to 40 CFR 268.6, or a certification under 40 CFR 268.8, and the applicable notice required by a generator under 40 CFR 268.7(a) (this information will be maintained in the operating record until closure of the facility)</p> <ul style="list-style-type: none"> - for an off-site treatment facility, a copy of the notice, and the certification and demonstration, if applicable, required by the generator or the owner or operator under § 268.7 or 40 CFR 268.8 - for an on-site treatment facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or the owner or operator under § 268.7 or 40 CFR 268.8 - for an off-site land disposal facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or the owner or operator of a treatment facility under § 268.7 or 40 CFR 268.8, whichever is applicable - for an on-site land disposal facility, the information contained in the notice required by the generator or owner or operator of a treatment facility under § 268.7, except for the manifest number, and the certification and demonstration if applicable, required under 40 CFR 268.8, whichever is applicable - for an off-site storage facility, a copy of the notice, and the certification and demonstration if applicable, required by the generator or owner or operator under § 268.7 or 40 CFR 268.8 - for an on-site storage facility, the information contained in the notice (except the manifest number), and the certification and demonstration if applicable, required by the generator or owner or operator under § 268.7 or 40 CFR 268.8 - any records required under these regulations - monitoring, testing or analytical data where required by § 264.346(e) of these regulations - certifications as required by § 264.196(f) of (this information will be maintained in the operating record until closure of the facility). <p>(NOTE: The retention period for all records is extended automatically during the course of any unresolved enforcement action or as required by the USEPA administrator.)</p>

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<p>HW.205.</p> <p>ADDITIONAL REQUIREMENTS FOR PERMITTED TSDFs</p> <p>HW.205.1.CO. [Deleted May 1998].</p> <p>HW.205.2.CO. Incinerators, boilers, and industrial furnaces must meet the requirements for hazardous waste burning and processing (6 CCR 1007-3, Section 264.340 and 264.346 (a)) [Citation Revised May 1998; Revised March 2004].</p>	<p>(NOTE: Equivalent to the Federal.)</p> <p>(NOTE: Owners or operators who burn or process hazardous waste fuels in boilers or industrial furnaces are subject to the requirements of Part 264, Subpart O. (Section 267.35). These requirements are the equivalent of the Federal requirements found in Subpart H -- Hazardous Waste Burned in Boilers and Industrial Furnaces.)</p> <p>Verify that the incinerator, boiler, or industrial furnace burning hazardous waste is operated in accordance with the operating and the emission standards of Section 264.342 through 264.345 as specified in the permit at all times where there is hazardous waste in the unit.</p> <p>(NOTE: In this subpart, the term "burn" means burning for energy recovery or destruction, or processing for materials recovery or as an ingredient. The emission standards of Section 264.342, 264.343, 264.344, and 264.345 apply to facilities operating under interim status or under a RCRA permit as specified in Section 264.340 and 265.140.)</p> <p>(NOTE: After consideration of the waste analysis included with Part B of the permit application, the Department, in establishing the permit conditions, may exempt the applicant from all requirements of this subpart except Section 264.341 (Waste analysis) and Section 264.346(h)(Closure), Section 264.346(f) (standards for direct transfer) and Section 264.347 (regulation of residues). There are also exclusions for lead recovery furnaces and the recovery of economically significant amounts of precious metals.)</p> <p>(NOTE: The following hazardous wastes and facilities are not subject to regulation under 264:</p> <ul style="list-style-type: none"> -used oil burned for energy recovery that is also a hazardous waste solely because it exhibits a characteristic of hazardous waste identified in Subpart C of Part 261 of these regulations. Such used oil is subject to regulation under Part 279 of these regulations - gas recovered from hazardous or solid waste landfills when such gas is burned for energy recovery - hazardous wastes that are exempt from regulation under Section 261.4 and 261.6(a)(3)(iii) and (iv) of these regulations, and hazardous wastes that are

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<p>HW.205.3.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet waste analysis requirements (6 CCR 1007-3, Section 264.341(b) and 264.342(a)) [Citation Revised May 1998; Revised March 2004].</p>	<p>subject to the special requirements for conditionally exempt small quantity generators under Section 261.5 of these regulations</p> <ul style="list-style-type: none"> - Coke ovens, if the only hazardous waste burned is EPA Hazardous Waste No. K087, decanter tank tar sludge from coking operations.) <p>Verify that, throughout normal operation the owner or operator conduct sufficient waste analysis to verify that waste feed to the incinerator is within the physical and chemical composition limits specified in the facility's permit.</p> <p>Verify that compliance with the permit emission standards during the operational period of an incinerator, boiler, or industrial furnace is evaluated by comparing the results of the stack testing required to the appropriate emission standards in the permit.</p> <p>(NOTE: Owners or operators of incinerators, boilers, or industrial furnaces burning hazardous waste must conduct both a pre-trial burn and post-trial burn Multi-Pathway Health Risk Assessment (MPHRA). The Director will utilize the results of the MPHRA to evaluate and develop risk-based, constituent specific permit emission standards. The pre-trial burn MPHRA must be submitted with the permit application. The post-trial burn MPHRA must be completed and submitted following the trial burn.)</p> <p>Verify that an incinerator, boiler, or industrial furnace burning hazardous waste does not emit any hazardous constituents in excess of an applicable permit emission standard.</p>
<p>HW.205.4.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet performance standards to control particulate matter (6 CCR 1007-3, Section 264.343) [Added March 2004].</p>	<p>Verify that an incinerator or boiler or industrial furnace burning hazardous waste does not emit particulate matter in excess of 23 milligrams per dry standard cubic meter (0.010 grains per dry standard cubic foot) after correction to a stack gas concentration of 7 percent oxygen, using procedures prescribed in 40 CFR Part 60, appendix A, methods 1 through 5, and Appendix IX to Section 264.348 of these regulations.</p> <p>(NOTE: Measured pollutant levels must be corrected for the amount of oxygen in the stack gas according to the formula: $P_c = P_m \times 14 / (E - Y)$ Where: P_c is the corrected concentration of the pollutant in the stack gas, P_m is the measured concentration of the pollutant in the stack gas, E is the oxygen concentration on a dry basis in the combustion air fed to the device, and Y is the measured oxygen concentration on a dry basis in the stack. For devices that feed normal combustion air, E will equal 21 percent. For devices that feed oxygen-enriched air for combustion (that is, air with an oxygen concentration exceeding 21 percent), the value of E will be the concentration of oxygen in the enriched air. Compliance with all emission standards must be based</p>

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<p>HW.205.5.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet general operating requirements (6 CCR 1007-3, Section 264.346 (d)) [Added March 2004].</p>	<p>on correcting to 7 percent oxygen using this procedure.)</p> <p>Verify that fugitive emissions are controlled by the following:</p> <ul style="list-style-type: none"> - keeping the combustion zone totally sealed against fugitive emissions - maintaining the combustion zone pressure lower than atmospheric pressure - an alternate means of control demonstrated (with Part B of the permit application) to provide fugitive emissions control equivalent to maintenance of combustion zone pressure lower than atmospheric pressure. <p>Verify that an incinerator, boiler or industrial furnace is operated with a functioning system that automatically cuts off the hazardous waste feed when operating conditions deviate from the established conditions.</p> <p>Verify that an incinerator, boiler or industrial furnace ceases burning hazardous waste when changes in combustion properties, or feed rates of the hazardous waste, other fuels, or industrial furnace feedstocks, or changes in the incinerator, boiler or industrial furnace design or operating conditions are expected or proposed which deviate from the limits as specified in the permit.</p>
<p>HW.205.6.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet monitoring and inspection requirements (6 CCR 1007-3, Section 264.346 (e)) [Added March 2004].</p>	<p>Verify that the owner or operator monitors and records the following, at a minimum, while burning hazardous waste:</p> <ul style="list-style-type: none"> - if specified by the permit, feed rates and composition of hazardous waste, other fuels, industrial furnace feedstocks, and feed rates of ash, metals, and total chlorine and chloride - if specified by the permit, carbon monoxide (CO), hydrocarbons (HC), and oxygen (O₂), HCl gas, and opacity on a continuous basis at a common point in the incinerator, boiler or industrial furnace downstream of the combustion zone and prior to release of stack gases to the atmosphere in accordance with operating requirements - any other emissions monitors specified in the permit. <p>Verify that all monitors record data in units corresponding to the permit limit unless otherwise specified in the permit.</p> <p>Verify that the incinerator, boiler or industrial furnace and associated equipment (pumps, valves, pipes, fuel storage tanks, etc.) are subjected to thorough visual inspection when it contains hazardous waste, at least daily for leaks, spills, fugitive emissions, and signs of tampering.</p> <p>Verify that the automatic hazardous waste feed cutoff system and associated alarms are tested at least once every 7 days when hazardous waste is burned to</p>

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<p>HW.205.7.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet recordkeeping requirements (6 CCR 1007-3, Section 264.346 (g)) [Added March 2004].</p>	<p>verify operability.</p> <p>(NOTE: The Director may decide that less frequent inspections will be adequate. At a minimum, operational testing must be conducted at least once every 30 days.)</p> <p>Verify that monitoring and inspection data are recorded and the records are placed in the required operating record.</p> <p>Verify that all information and data required is maintained in the operating record until closure of the facility.</p>
<p>HW.205.8.CO. Personnel at hazardous waste incinerators, boilers, and industrial furnaces must have additional training (6 CCR 1007-3, Section 264.346 (m)) [Added March 2004].</p>	<p>(NOTE: These requirements are in addition to the requirements of Section 264.16. and must be in facility's personnel training plan.)</p> <p>Verify that personnel involved in the operation of hazardous waste incinerators, boilers, and industrial furnaces complete a Division-approved training program designed to provide a thorough background in basic design, proper operation and maintenance of an incineration facility.</p> <p>Verify that operators receive training specific to the type of device, or aspect of the facility's operation, for which he/she will be responsible.</p> <p>Verify that the content and date of each major phase of operator training and the party responsible for providing the training is documented.</p> <p>Verify that operators of hazardous waste incinerators, boilers, and industrial furnaces do not work in an unsupervised position until they have completed the training program required to operate the particular aspect of the facility operation for which they are assigned.</p> <p>Verify that an annual refresher is conducted and periodic updates as necessary, to supplement initial training.</p> <p>Verify that personnel involved in maintenance (those who are not assigned operators) of hazardous waste incinerators, boilers, and industrial furnaces are properly trained in a program with an explicit curriculum, and must satisfactorily complete training in their area of assignment prior to working in an unsupervised position.</p>

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<p>HW.205.9.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet additional requirements for emergency planning and response (6 CCR 1007-3, Section 264.346 (n)) [Added March 2004].</p>	<p>Verify that standard operating procedures for conducting inspections and maintenance activities are developed, maintained on-site as part of the facility's operating records, and kept up-to-date.</p> <p>Verify that facility operators and maintenance personnel are trained on the operating procedures, and involved in their revision, where necessary.</p> <p>Verify that all personnel involved in operation of a hazardous waste incineration, boiler or industrial furnace facility receive thorough training in the facility's contingency plan and emergency response procedures prior to working in an unsupervised position at an operating incineration facility.</p> <p>(NOTE: In addition to the requirements of Part 264-Subparts C and D, if local emergency response authorities decline to enter into emergency response arrangements, the owner or operator must notify the Director in writing of this fact within 10 days of such refusal, and will prepare an alternative contingency plan addressing on-site and off-site releases of hazardous waste and constituents.)</p> <p>Verify that the facility's emergency response arrangements designate each party's roles and responsibilities, and establish procedures for responding to off-site releases of hazardous waste and constituents.</p> <p>Verify that the facility's contingency/emergency plan contain:</p> <ul style="list-style-type: none"> - a "maximum credible accident" scenario for a hazardous waste emergency at the facility, and establish emergency measures to respond to such an incident, developed through coordination with local emergency response authorities - procedures for rapidly evaluating off-site impacts and a procedure for determining the need for evacuation of persons located outside the facility boundary which may be adversely affected by a release of hazardous waste or constituents - a specific evacuation plan for persons located off-site in the event of a release of hazardous waste or constituents that would trigger a need for evacuation - in the event that local authorities take the lead responsibility for developing the evacuation plan for persons located outside the facility boundary, the owner or operator cooperates with the responsible agency(s) in its development. <p>Verify that a copy of the evacuation plan and any subsequent revisions are maintained at the facility as part of the facility's contingency plan.</p> <p>(NOTE: The procedures for evaluating off-site releases and the off-site evacuation plan are subject to the review and concurrence of the local emergency response authorities prior to operation of the incineration, boiler or industrial furnace facility. In the event that local concurrence is not granted, the owner or operator</p>

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<p>HW.205.10.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet sampling, analysis, and monitoring requirements (6 CCR 1007-3, Section 264.346 (i), (j), (k), and (l)) [Added March 2004].</p>	<p>must promptly notify the Director in writing of this situation.)</p> <p>Verify that appropriate training is provided to those employees responsible for implementing the contingency/emergency plan, in accordance with the training plan requirements.</p> <p>Verify that the owner or operator attempts to coordinate periodic exercises with the local emergency response authorities, at a frequency acceptable to the responsible agency(s), to familiarize all responsible parties with the emergency response procedures and test the effectiveness of the contingency/emergency response plan.</p> <p>Verify that, based on the results of these exercises, the owner or operator, in consultation with the local emergency response authorities, makes necessary revisions to the plan to ensure that it functions as designed in an emergency.</p> <p>Verify that all required periodic sampling and analyses of environmental media (air, soil (and/or vegetation), surface water and/or ground water) in proximity to the incineration, boiler or industrial furnace facility is conducted.</p> <p>Verify that the approved a sampling and analysis plan is following.</p> <p>Verify that the results are reported in accordance with procedures specified in the facility's permit.</p> <p>Verify that, if any performance standard is exceeded based on the emissions test and air dispersion modeling (or as determined through site specific ambient air sampling and analyses, if performed), the facility ceases feeding hazardous waste immediately and notify the Director in writing of the results of this assessment.</p> <p>(NOTE: Feeding hazardous waste to the incineration, boiler or industrial furnace facility may resume only after the Director has reviewed the trial burn report or periodic compliance test results, as applicable, and the Director has allowed the owner or operator to resume hazardous waste operations, or has revised the facility operating permit to operate under modified operating conditions, or has approved a revised trial burn plan under Section 100.28, and has issued a permit to conduct another trial burn.)</p>
<p>HW.205.11.CO. When hazardous waste is directly transferred from a transport vehicle to incinerators, boilers, or industrial furnaces, specific requirements must be</p>	<p>(NOTE: The regulations in this section apply to owners and operators of incinerators, boilers, and industrial furnaces subject to Section 264.346 or 265.140 if hazardous waste is directly transferred from a transport vehicle to an incinerator, boiler or industrial furnace without the use of a storage unit. They are the equivalent the Federal regulations found in 40 CFR 266.111.)</p>

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<p>met (6 CCR 1007-3, Section 264.346 (f) (1) through (4)) [Added March 2004].</p>	<p>(NOTE: Direct transfer equipment means any device (including but not limited to, such devices as piping, fittings, flanges, valves, and pumps) that is used to distribute, meter, or control the flow of hazardous waste between a container (i.e., transport vehicle) and an incinerator, boiler or industrial furnace. Container means any portable device in which hazardous waste is transported, stored, treated, or otherwise handled, and includes transport vehicles that are containers themselves (e.g., tank trucks, tanker-trailers, and rail tank cars), and containers placed on or in a transport vehicle.)</p> <p>Verify that no direct transfer of a pumpable hazardous waste is conducted from an open-top container to an incinerator, boiler or industrial furnace.</p> <p>Verify that direct transfer equipment used for pumpable hazardous waste is always closed, except when necessary to add or remove the waste, and is not opened, handled, or stored in a manner that may cause any rupture or leak.</p> <p>Verify that the direct transfer of hazardous waste to an incinerator, boiler or industrial furnace is conducted so that it does not:</p> <ul style="list-style-type: none"> - generate extreme heat or pressure, fire, explosion, or violent reaction - produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health - produce uncontrolled flammable fumes or gases in sufficient quantities to pose a risk of fire or explosions - damage the structural integrity of the container or direct transfer equipment containing the waste - adversely affect the capability of the incinerator, boiler or industrial furnace to meet the standards provided by Section 264.342 through 264.345 - threaten human health or the environment. <p>Verify that hazardous waste is not placed in direct transfer equipment, if it could cause the equipment or its secondary containment system to rupture, leak, corrode, or otherwise fail.</p> <p>Verify that appropriate controls and practices are used to prevent spills and overflows from the direct transfer equipment or its secondary containment systems.</p> <p>Verify that areas where direct transfer vehicles (see definition of container above) are located comply with the following requirements:</p> <ul style="list-style-type: none"> - the containment requirements of Section 264.175 of these regulations - use and management requirements of Subpart I, Part 265 of these regulations, except for Section 265.170 and 265.174, and except that in lieu of the special requirements of Section 265.176 for ignitable or reactive waste, the owner or operator may comply with the requirements for the maintenance of protective distances between the waste management area and any public ways, streets, alleys, or an adjacent property line that can be built upon as

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<p>HW.205.12.CO. When hazardous waste is directly transferred from a transport vehicle to an incinerators, boilers, or industrial furnaces, direct transfer equipment must meet specific requirements (6 CCR 1007-3, Section 264.346 (f)(5)(i) and (ii)) [Added March 2004].</p>	<p>required in Tables 2-1 through 2-6 of the National Fire Protection Association's (NFPA) "Flammable and Combustible Liquids Code," (1977 or 1981), (incorporated by reference, see Section 260.11).</p> <p>Verify that the owner or operator obtains and keeps on file at the facility a written certification by the local Fire Marshall that the installation meets the subject NFPA codes.</p> <p>(NOTE: The regulations in this section apply to owners and operators of incinerators, boilers, and industrial furnaces subject to Section 264.346 or 265.140 if hazardous waste is directly transferred from a transport vehicle to an incinerator, boiler or industrial furnace without the use of a storage unit. They are the equivalent the Federal regulations found in 40 CFR 266.111.)</p> <p>(NOTE: Owners and operators must comply with the secondary containment requirements of Section 265.193 of these regulations, except for paragraphs 265.193(a), (d), (e), and (i).)</p> <p>Verify that direct transfer equipment has secondary containment or a written assessment reviewed and certified by a qualified, registered professional engineer that attests to the equipment's integrity.</p> <p>Verify that the owner or operator inspects at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the incinerator, boiler or industrial furnace:</p> <ul style="list-style-type: none"> - overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order - the above ground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste (e.g., wet spots, dead vegetation) - data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to its design. <p>Verify that cathodic protection systems, if used, are inspected to ensure that they are functioning properly according to the schedule provided by Section 265.195(b).</p>
<p>HW.205.13.CO. When hazardous waste is directly transferred from a transport vehicle to incinerators, boilers, or industrial furnaces, the management of direct</p>	<p>(NOTE: The regulations in this section apply to owners and operators of incinerators, boilers, and industrial furnaces subject to Section 264.346 or 265.140 if hazardous waste is directly transferred from a transport vehicle to an incinerator, boiler or industrial furnace without the use of a storage unit. They are the equivalent of the Federal regulations found in 40 CFR 266.111.)</p>

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<p>transfer equipment must meet specific requirements (6 CCR 1007-3, Section 264.346 (f)(5)(C) (iii) through (vi)) [Added March 2004].</p>	<p>Verify that, at least once each operating hour when hazardous waste is being transferred from the transport vehicle (container) to the incinerator, boiler or industrial furnace the following is inspected:</p> <ul style="list-style-type: none"> - overfill/spill control equipment (e.g., waste-feed cutoff systems, bypass systems, and drainage systems) to ensure that it is in good working order - the above ground portions of the direct transfer equipment to detect corrosion, erosion, or releases of waste (e.g., wet spots, dead vegetation) - data gathered from monitoring equipment and leak-detection equipment, (e.g., pressure and temperature gauges) to ensure that the direct transfer equipment is being operated according to its design. <p>Verify that cathodic protection systems, if used, are inspected to ensure that they are functioning properly according to the schedule provided by Section 265.195(b) of these regulations.</p> <p>Verify that records of inspections made are maintained in the operating record at the facility, and available for inspection for at least 3 years from the date of the inspection.</p> <p>Verify that owners and operators comply with the requirements of Section 265.196 of these regulations in response to leaks and spills.</p>
<p>HW.205.14.CO. Hazardous waste incinerators, boilers, and industrial furnaces must meet closure requirements (6 CCR 1007-3, Section 264.346 (h)) [Added March 2004].</p>	<p>Verify that, at closure, the owner or operator removes all hazardous waste and hazardous waste residues (including, but not limited to, ash, scrubber waters, and scrubber sludges) from the incinerator, boiler or industrial furnace.</p> <p>(NOTE: At closure, as throughout the operating period, unless the owner or operator can demonstrate that the residue removed from the incinerator, boiler or industrial furnace is not a hazardous waste, the owner or operator becomes a generator of hazardous waste and must manage it in accordance with applicable requirements of Parts 262 through 266 of these regulations.)</p>

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<p>SMALL QUANTITY UNIVERSAL WASTE HANDLERS</p> <p>HW.290. Specific wastes</p> <p>HW.290.1.CO. Small quantity handlers of mercury containing devices who drain elemental mercury from open ended mercury containing devices must meet specific requirements (6 CCR 1007-3, Section 273.13 (c) (4)) [Added March 2006].</p>	<p>(NOTE: Colorado uses the term <i>mercury containing device</i> rather than <i>mercury containing equipment</i> when regulating universal waste.)</p> <p>Verify that the universal waste mercury-containing devices are drained only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from a device in case of breakage or spill).</p> <p>Verify that the draining operations are performed safely by developing and implementing a written procedure detailing how to safely drain the universal waste mercury-containing devices.</p> <p>Verify that the procedure include the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to drain the universal waste mercury-containing devices safely - operation and maintenance of the equipment - segregation of incompatible wastes - proper waste management practices - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste mercury-containing device which may occur during the mercury draining operation.</p> <p>Verify that the drained elemental mercury is immediately transferred to a container that meets the requirements of 262.34 (see HW.20.1.US.).</p> <p>Verify that the area in which the universal waste mercury-containing devices are drained is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury.</p> <p>Verify that employees are thoroughly familiar with the procedure for draining universal waste mercury-containing devices, and proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p> <p>Verify that the drained elemental mercury is stored in a closed, non-leaking container that is in good condition.</p>

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<p>HW.290.2.CO. Small quantity handlers of universal waste aerosol cans must meet management requirements (6 CCR 1007-3, Section 273.13 (d) (1)) [Added March 2006].</p>	<p>Verify that documentation of the date of accumulation, a description of the device drained, and the amount of mercury drained is maintained.</p> <p>Verify that only up to 35 kilograms (about 77 pounds) of elemental mercury is accumulated at any one time.</p> <p>Verify that universal waste aerosol cans are managed in a way that prevents release of any universal waste or component of a universal waste to the environment.</p> <p>Verify that any universal waste aerosol can that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions is immediately contained in a separate individual container.</p> <p>Verify that the individual container is closed, structurally sound, compatible with the contents of the universal waste aerosol can, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.</p>
<p>HW.290.3.CO. Small quantity handlers of universal waste aerosol cans must meet accumulation requirements (6 CCR 1007-3, Section 273.13 (d) (2)) [Added March 2006].</p>	<p>Verify that the quantity handler accumulates universal waste aerosol cans in a specially designated accumulation container clearly marked for such use.</p> <p>Verify that the accumulation container is closed, structurally sound, compatible with the contents of the universal waste aerosol can, and lacks evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.</p> <p>Verify that the universal waste aerosol cans are sorted by type and compatibility of contents to ensure that incompatible materials are segregated and managed appropriately in separate accumulation containers.</p>
<p>HW.290.4.CO. Small quantity handlers of universal waste aerosol cans who puncture those cans must meet specific management requirements (6 CCR 1007-3, Section 273.13 (d) (3)) [Added March 2006].</p>	<p>Verify that the universal waste aerosol can is punctured in a manner designed to prevent the release of any universal waste or component of universal waste to the environment.</p> <p>Verify that the puncturing operations are performed safely by developing and implementing a written procedure detailing how to safely puncture universal waste aerosol cans.</p> <p>Verify that this procedure includes the following:</p>

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<p>HW.290.5.CO. Small quantity handlers of universal waste aerosol cans who puncture those cans must meet characterization requirements (6 CCR 1007-3, Section 273.13 (d) (4)) [Added March 2006].</p>	<ul style="list-style-type: none"> - the type of equipment to be used to puncture the universal waste aerosol cans safely - operation and maintenance of the unit - segregation of incompatible wastes - proper waste management practices, (i.e., ensuring that flammable wastes are stored away from heat or open flames) - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste aerosol can which may occur during the can-puncturing operation.</p> <p>Verify that the contents of the universal waste aerosol can, or puncturing device if applicable, is immediately transferred to a container that meets the requirements of Section 262.34 (see HW.20.1.US.).</p> <p>Verify that the area in which the universal waste aerosol cans are punctured is well ventilated.</p> <p>Verify that employees are thoroughly familiar with the procedure for sorting and puncturing universal waste aerosol cans, and proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p> <p>Verify that a small quantity handler of universal waste who punctures universal waste aerosol cans to remove the contents of the aerosol can, or who generates other solid waste as a result of the activities listed in HW.290.4.CO, determines whether the contents of the universal waste aerosol can, residues and/or other solid wastes exhibit a characteristic of hazardous waste identified in Part 261, Subpart C of these regulations, or are listed as a hazardous waste identified in Part 261, Subpart D of these regulations.</p> <p>Verify that, if the contents of the universal waste aerosol can, residues and/or other solid waste exhibit a characteristic of hazardous waste or are listed hazardous wastes, they are managed in compliance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.</p> <p>(NOTE: The handler is considered the generator of the contents of the universal waste aerosol can, residues, and/or other waste and is subject to the requirements of Part 262 of these regulations. In addition to the Part 262 labeling requirements, the container used to accumulate, store, or transport the hazardous waste contents removed from the punctured universal waste aerosol must be labeled with all applicable EPA Hazardous Waste Codes found in Subpart C and Subpart D of Part 261 of these regulations.)</p> <p>Verify that, if the contents of the universal waste aerosol can, residues, and/or</p>

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<p>HW.290.6.CO. Small quantity handlers of universal waste lamps who crush those lamps must meet management requirements (6 CCR 1007-3, Section 273.13 (e) (3)) [Added March 2006].</p>	<p>other solid waste are not hazardous, the handler manage the waste in a way that is in compliance with applicable federal, state or local solid waste regulations.</p> <p>Verify that the universal waste lamps are crushed in a completely enclosed system that is designed to prevent the release of any universal waste or component of universal waste to the environment (e.g., a sealed tank or container that is equipped with a filter to capture mercury emissions).</p> <p>Verify that the crushing operations are performed safely by developing and implementing a written procedure detailing how to safely crush the universal waste lamps.</p> <p>Verify that this procedure includes the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to crush the universal waste lamps safely - operation and maintenance of the unit - segregation of incompatible wastes - proper waste management practices - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste lamp which may occur during the lamp crushing operation.</p> <p>Verify that the crushed universal waste lamp is immediately transferred to a container that meets the requirements of Section 262.34 (HW.20.1.US.).</p> <p>Verify that the area in which the universal waste lamps are crushed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury.</p> <p>Verify that employees are thoroughly familiar with the procedure for crushing universal waste lamps, and proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p>
<p>HW.290.7.CO. Small quantity handlers of universal waste lamps who crust those lamps must meet characterization requirements (6 CCR 1007-3, Section 273.13 (e) (4)) [Added March</p>	<p>Verify that a small quantity handler of universal waste who crushes universal waste lamps, or who generates other solid waste as a result of crushing the lamps, determines whether the crushed universal waste lamp, its residues and/or other solid wastes exhibit a characteristic of hazardous waste identified in Part 261, Subpart C of these regulations, or are listed as a hazardous waste identified in Part 261, Subpart D of these regulations.</p>

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<p>2006].</p>	<p>Verify that, if the crushed universal waste lamps exhibit a characteristic of hazardous waste, they may continue to be managed as universal waste lamps under this part or they may be managed in accordance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.</p> <p>(NOTE: If the crushed universal waste lamps are not managed as universal waste under this part, then the handler is considered the generator of the newly generated hazardous waste and is subject to the requirements of Part 262 of these regulations. If the residues and/or other solid waste generated exhibit a characteristic of hazardous waste, they must be managed in accordance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations. The handler is considered the generator of the newly generated hazardous waste and is subject to the requirements of Part 262 of these regulations.)</p> <p>Verify that, if the crushed universal waste lamp, its residues and/or other solid waste are not hazardous, the handler manages the waste in a way that is in compliance with applicable federal, state or local solid waste regulations.</p>
<p>HW.290.8.CO. Small quantity handlers of electronic devices and electronic components must meet containment and container management requirements (6 CCR 1007-3, Section 273.13 (f) (1) and (2)) [Added March 2006].</p>	<p>Verify that electronic devices and electronic components are managed in a way that prevents releases of any universal waste or component of a universal waste to the environment.</p> <p>Verify that any electronic device or electronic components are contained in containers that are structurally sound, adequate to prevent breakage, and compatible with the contents of the device or component.</p> <p>Verify that the containers lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.</p> <p>Verify that any electronic device or electronic component that is broken or shows evidence of breakage, leakage, or damage that could cause the release of hazardous constituents to the environment is immediately cleaned up and placed in a container.</p> <p>Verify that containers are structurally sound, compatible with the contents of the electronic device or electronic component and lack evidence of leakage, spillage or damage that could cause leakage or releases of hazardous constituents to the environment under reasonably foreseeable conditions.</p>
<p>HW.290.9.CO. Small quantity handlers who disassemble universal waste</p>	<p>Verify that the universal waste electronic devices are disassembled in a manner designed to prevent the release of any universal waste or component of universal</p>

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<p>electronic devices must meet management and characterization requirements (6 CCR 1007-3, Section 273.13 (f) (3) and (4)) [Added March 2006].</p>	<p>waste to the environment.</p> <p>Verify that the disassembly operations are performed safely by developing and implementing a written procedure detailing how to safely disassemble each universal waste electronic device managed at the facility.</p> <p>Verify that this procedure includes the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to disassemble the universal waste electronic devices safely - operation and maintenance of all equipment - segregation of incompatible wastes - proper waste management practices - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste electronic device which may occur during disassembly operations.</p> <p>Verify that disassembled electronic components are immediately segregated and transferred to containers that meet the requirements of Section 262.34 (see HW.20.1.US.).</p> <p>Verify that employees are thoroughly familiar with the procedures for disassembling universal waste electronic devices, proper waste handling, and emergency procedures relevant to their responsibilities during normal facility operations and emergencies.</p> <p>Verify that a system to ensure compliance with the written disassembling and management procedures is maintained.</p> <p>Verify that a small quantity handler of universal waste who disassembles universal waste electronic devices, or who generates other solid waste as a result of disassembling the electronic devices, determines whether the disassembled electronic device, its components and/or other solid wastes exhibit a characteristic of hazardous waste identified in Part 261, Subpart C of these regulations, or are listed as a hazardous waste identified in Part 261, Subpart D of these regulations.</p> <p>(NOTE: If the disassembled universal waste electronic device or its components exhibit a characteristic of hazardous waste, they may continue to be managed as universal waste under this part. If the disassembled universal waste electronic device or its components are not managed as universal waste under this part, then the handler is considered the generator of the newly generated hazardous waste and is subject to all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.)</p> <p>Verify that, if the disassembled universal waste electronic device, its components,</p>

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	and/or other solid waste are not hazardous, the handler manages the waste in a way that is in compliance with applicable federal, state and local solid waste regulations.

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<p>SMALL QUANTITY UNIVERSAL WASTE HANDLERS</p> <p>HW.310. Containers</p> <p>HW.310.1.CO. Small quantity handlers of universal mercury waste containing devices must meet labeling and marking requirements (6 CCR 1007-3, Section 273.14 (d)) [Added March 2006].</p> <p>HW.310.2.CO. Small quantity handlers of universal waste aerosol cans must meet labeling and marking requirements (6 CCR 1007-3, Section 273.14 (e)) [Added March 2006].</p> <p>HW.310.3.CO. Small quantity handlers of universal waste lamps must meet labeling and marking requirements (6 CCR 1007-3, Section 273.14 (f)) [Added March 2006].</p> <p>HW.310.4.CO. Small quantity handlers of universal waste electronic device or components must meet labeling and marking requirements (6 CCR 1007-3, Section 273.14 (g) and (h)) [Added March 2006].</p>	<p>Verify that universal waste mercury-containing devices (i.e., each mercury-containing device), or a container in which the mercury-containing devices are contained, is labeled or marked clearly with any one of the following phrases:</p> <ul style="list-style-type: none"> - "Universal Waste Mercury-Containing Device(s)" - "Waste Mercury-Containing Device(s)" - "Used Mercury-Containing Device(s)". <p>Verify that universal waste aerosol cans (i.e., each can), or a container in which the universal waste aerosol cans are contained or accumulated, is labeled or marked clearly with any one of the following phrases: "Universal Waste-Aerosol Can(s)", or "Waste Aerosol Can(s)".</p> <p>Verify that each lamp or a container or package in which such lamps are contained is labeled or marked clearly with one of the following phrases: "Universal Waste-Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)."</p> <p>Verify that each universal waste electronic device or a container in which universal waste electronic devices are contained is labeled or marked clearly with one of the following phrases:</p> <ul style="list-style-type: none"> - "Universal Waste-Electronic Device(s)" - "Waste Electronic Device(s)" - "Used Electronic Device(s)." <p>(NOTE: The name of the electronic device may be substituted for the words</p>

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	<p>"Electronic Device(s)" (e.g., "Universal Waste-Monitor(s)" or "Waste Monitors").)</p> <p>Verify that each universal waste electronic component or a container in which universal waste electronic components are contained is labeled or marked clearly with one of the following phrases:</p> <ul style="list-style-type: none"> - "Universal Waste-Electronic Components" - "Waste Electronic Components" - "Used Electronic Components." <p>(NOTE: The name of the electronic component may be substituted for the words "Electronic Component(s)" (e.g., "Universal Waste-Circuit Board(s)" or "Waste Circuit Board(s)").)</p>

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<p>LARGE QUANTITY UNIVERSAL WASTE HANDLERS</p> <p>HW.380. Specific wastes</p> <p>HW.380.1.CO. Large quantity handlers of mercury containing devices who drains elemental mercury from open ended mercury containing devices must meet specific requirements (6 CCR 1007-3, Section 273.33 (c) (4) and (5)) [Added March 2006].</p>	<p>(NOTE: Colorado uses the terms <i>mercury containing device</i> rather than <i>mercury containing equipment</i> when regulating universal waste.)</p> <p>Verify that the universal waste mercury-containing devices are drained only over or in a containment device (e.g., tray or pan sufficient to collect and contain any mercury released from a device in case of breakage or spill).</p> <p>Verify that the draining operations are performed safely by developing and implementing a written procedure detailing how to safely drain the universal waste mercury-containing devices.</p> <p>Verify that the procedure include the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to drain the universal waste mercury-containing devices safely - operation and maintenance of the equipment - segregation of incompatible wastes - proper waste management practices - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste mercury-containing device which may occur during the mercury draining operation.</p> <p>Verify that the drained elemental mercury is immediately transferred to a container that meets the requirements of 262.34 (see HW.20.1.US.).</p> <p>Verify that the area in which the universal waste mercury-containing devices are drained is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury.</p> <p>Verify that employees are thoroughly familiar with the procedure for draining universal waste mercury-containing devices, and proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p> <p>Verify that the drained elemental mercury is stored in a closed, non-leaking container that is in good condition.</p>

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	<p>Verify that documentation of the date of accumulation, a description of the device drained, and the amount of mercury drained is maintained.</p> <p>Verify that only up to 35 kilograms (about 77 pounds) of elemental mercury is accumulated at any one time.</p> <p>Verify that a large quantity handler of universal waste who drains universal waste mercury containing devices, or who generates other solid waste as a result of draining the mercury containing devices, determines whether the following exhibit a characteristic of hazardous waste identified in Part 261, Subpart C:</p> <ul style="list-style-type: none"> - mercury or clean-up residues resulting from spills or leaks - other solid waste generated as a result of the removal of mercury-containing ampules (e.g., remaining mercury-containing device units and filters). <p>Verify that, if the mercury, residues, and/or other solid waste exhibit a characteristic of hazardous waste, they are managed in accordance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.</p> <p>(NOTE: The handler is considered the generator of the newly generated hazardous waste and is subject to the requirements of Part 262 of these regulations.)</p> <p>Verify that, if the mercury, residues and/or other solid waste are not hazardous, the handler manages the waste in a way that is in compliance with applicable federal, state or local solid waste regulations.</p>
HW.380.2.CO. Large quantity handlers of universal waste aerosol cans must meet management requirements (6 CCR 1007-3, Section 273.33 (d) (1)) [Added March 2006].	<p>Verify that universal waste aerosol cans are managed in a way that prevents release of any universal waste or component of a universal waste to the environment.</p> <p>Verify that any universal waste aerosol can that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions is immediately contained in a separate individual container.</p> <p>Verify that the individual container is closed, structurally sound, compatible with the contents of the universal waste aerosol can, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.</p>
HW.380.3.CO. Large quantity handlers of universal waste aerosol cans must meet accumulation requirements (6	<p>Verify that the quantity handler accumulates universal waste aerosol cans in a specially designated accumulation container clearly marked for such use.</p> <p>Verify that the accumulation container is closed, structurally sound, compatible</p>

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<p>CCR 1007-3, Section 273.33 (d) (2)) [Added March 2006].</p> <p>HW.380.4.CO. Large quantity handlers of universal waste aerosol cans who puncture those cans must meet specific management requirements (6 CCR 1007-3, Section 273.33 (d) (3)) [Added March 2006].</p>	<p>with the contents of the universal waste aerosol can, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.</p> <p>Verify that the universal waste aerosol cans are sorted by type and compatibility of contents to ensure that incompatible materials are segregated and managed appropriately in separate accumulation containers.</p> <p>Verify that the universal waste aerosol can is punctured in a manner designed to prevent the release of any universal waste or component of universal waste to the environment.</p> <p>Verify that the puncturing operations are performed safely by developing and implementing a written procedure detailing how to safely puncture universal waste aerosol cans.</p> <p>Verify that this procedure includes the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to puncture the universal waste aerosol cans safely - operation and maintenance of the unit - segregation of incompatible wastes - proper waste management practices, (i.e., ensuring that flammable wastes are stored away from heat or open flames) - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste aerosol can which may occur during the can-puncturing operation.</p> <p>Verify that the contents of the universal waste aerosol can, or puncturing device if applicable, is immediately transferred to a container that meets the requirements of Section 262.34 (see HW.20.1.US.).</p> <p>Verify that the area in which the universal waste aerosol cans are punctured is well ventilated.</p> <p>Verify that employees are thoroughly familiar with the procedure for sorting and puncturing universal waste aerosol cans, and proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p>
<p>HW.380.5.CO. Large</p>	<p>Verify that a large quantity handler of universal waste who punctures universal</p>

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<p>quantity handlers of universal waste aerosol cans who puncture those cans must meet characterization requirements (6 CCR 1007-3, Section 273.33 (d) (4)) [Added March 2006].</p>	<p>waste aerosol cans to remove the contents of the aerosol can, or who generates other solid waste as a result of the activities listed in HW.290.4.CO, determines whether the contents of the universal waste aerosol can, residues and/or other solid wastes exhibit a characteristic of hazardous waste identified in Part 261, Subpart C of these regulations, or are listed as a hazardous waste identified in Part 261, Subpart D of these regulations.</p> <p>Verify that, if the contents of the universal waste aerosol can, residues and/or other solid waste exhibit a characteristic of hazardous waste or are listed hazardous wastes, they are managed in compliance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.</p> <p>(NOTE: The handler is considered the generator of the contents of the universal waste aerosol can, residues, and/or other waste and is subject to the requirements of Part 262 of these regulations. In addition to the Part 262 labeling requirements, the container used to accumulate, store, or transport the hazardous waste contents removed from the punctured universal waste aerosol must be labeled with all applicable EPA Hazardous Waste Codes found in Subpart C and Subpart D of Part 261 of these regulations.)</p> <p>Verify that, if the contents of the universal waste aerosol can, residues, and/or other solid waste are not hazardous, the handler manage the waste in a way that is in compliance with applicable federal, state or local solid waste regulations.</p>
<p>HW.380.6.CO. Large quantity handlers of universal waste lamps who crush those lamps must meet management requirements (6 CCR 1007-3, Section 273.33 (e) (3)) [Added March 2006].</p>	<p>Verify that the universal waste lamps are crushed in a completely enclosed system that is designed to prevent the release of any universal waste or component of universal waste to the environment (e.g., a sealed tank or container that is equipped with a filter to capture mercury emissions).</p> <p>Verify that the crushing operations are performed safely by developing and implementing a written procedure detailing how to safely crush the universal waste lamps.</p> <p>Verify that this procedure includes the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to crush the universal waste lamps safely - operation and maintenance of the unit - segregation of incompatible wastes - proper waste management practices - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste lamp which may occur during the lamp crushing operation.</p> <p>Verify that the crushed universal waste lamp is immediately transferred to a</p>

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<p>HW.380.7.CO. Large quantity handlers of universal waste lamps who crush those lamps must meet characterization requirements (6 CCR 1007-3, Section 273.33 (e) (4)) [Added March 2006].</p>	<p>container that meets the requirements of Section 262.34 (HW.20.1.US.).</p> <p>Verify that the area in which the universal waste lamps are crushed is well ventilated and monitored to ensure compliance with applicable OSHA exposure levels for mercury.</p> <p>Verify that employees are thoroughly familiar with the procedure for crushing universal waste lamps, and proper waste handling and emergency procedures, relevant to their responsibilities during normal facility operations and emergencies.</p> <p>Verify that a large quantity handler of universal waste who crushes universal waste lamps, or who generates other solid waste as a result of crushing the lamps, determines whether the crushed universal waste lamp, its residues and/or other solid wastes exhibit a characteristic of hazardous waste identified in Part 261, Subpart C of these regulations, or are listed as a hazardous waste identified in Part 261, Subpart D of these regulations.</p> <p>Verify that, if the crushed universal waste lamps exhibit a characteristic of hazardous waste, they may continue to be managed as universal waste lamps under this part or they may be managed in accordance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.</p> <p>(NOTE: If the crushed universal waste lamps are not managed as universal waste under this part, then the handler is considered the generator of the newly generated hazardous waste and is subject to the requirements of Part 262 of these regulations. If the residues and/or other solid waste generated exhibit a characteristic of hazardous waste, they must be managed in accordance with all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations. The handler is considered the generator of the newly generated hazardous waste and is subject to the requirements of Part 262 of these regulations.)</p> <p>Verify that, if the crushed universal waste lamp, its residues and/or other solid waste are not hazardous, the handler manages the waste in a way that is in compliance with applicable federal, state or local solid waste regulations.</p>
<p>HW.380.8.CO. Large quantity handlers of electronic devices and electronic components must meet containment and container management</p>	<p>Verify that electronic devices and electronic components are managed in a way that prevents releases of any universal waste or component of a universal waste to the environment.</p> <p>Verify that any electronic device or electronic components are contained in containers that are structurally sound, adequate to prevent breakage, and</p>

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<p>requirements (6 CCR 1007-3, Section 273.33 (f) (1) and (2)) [Added March 2006].</p> <p>HW.380.9.CO. Large quantity handlers who disassemble universal waste electronic devices must meet management and characterization requirements (6 CCR 1007-3, Section 273.33 (f) (3) and (4)) [Added March 2006].</p>	<p>compatible with the contents of the device or component.</p> <p>Verify that the containers lack evidence of leakage, spillage or damage that could cause leakage under reasonably foreseeable conditions.</p> <p>Verify that any electronic device or electronic component that is broken or shows evidence of breakage, leakage, or damage that could cause the release of hazardous constituents to the environment is immediately cleaned up and placed in a container.</p> <p>Verify that containers are structurally sound, compatible with the contents of the electronic device or electronic component and lack evidence of leakage, spillage or damage that could cause leakage or releases of hazardous constituents to the environment under reasonably foreseeable conditions.</p> <p>Verify that the universal waste electronic devices are disassembled in a manner designed to prevent the release of any universal waste or component of universal waste to the environment.</p> <p>Verify that the disassembly operations are performed safely by developing and implementing a written procedure detailing how to safely disassemble each universal waste electronic device managed at the facility.</p> <p>Verify that this procedure includes the following:</p> <ul style="list-style-type: none"> - the type of equipment to be used to disassemble the universal waste electronic devices safely - operation and maintenance of all equipment - segregation of incompatible wastes - proper waste management practices - waste characterization. <p>Verify that a spill clean-up kit is readily available to immediately clean up spills or leaks of the contents of the universal waste electronic device which may occur during disassembly operations.</p> <p>Verify that disassembled electronic components are immediately segregated and transferred to containers that meet the requirements of Section 262.34 (see HW.20.1.US.).</p> <p>Verify that employees are thoroughly familiar with the procedures for disassembling universal waste electronic devices, proper waste handling, and emergency procedures relevant to their responsibilities during normal facility operations and emergencies.</p>

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	<p>Verify that a system to ensure compliance with the written disassembling and management procedures is maintained.</p> <p>Verify that a large quantity handler of universal waste who disassembles universal waste electronic devices, or who generates other solid waste as a result of disassembling the electronic devices, determines whether the disassembled electronic device, its components and/or other solid wastes exhibit a characteristic of hazardous waste identified in Part 261, Subpart C of these regulations, or are listed as a hazardous waste identified in Part 261, Subpart D of these regulations.</p> <p>(NOTE: If the disassembled universal waste electronic device or its components exhibit a characteristic of hazardous waste, they may continue to be managed as universal waste under this part. If the disassembled universal waste electronic device or its components are not managed as universal waste under this part, then the handler is considered the generator of the newly generated hazardous waste and is subject to all applicable requirements of Parts 260 through 268, and Parts 99 and 100 of these regulations.)</p> <p>Verify that, if the disassembled universal waste electronic device, its components, and/or other solid waste are not hazardous, the handler manages the waste in a way that is in compliance with applicable federal, state and local solid waste regulations.</p>

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<p>LARGE QUANTITY UNIVERSAL WASTE HANDLERS</p> <p>HW.400. Containers</p> <p>HW.400.1.CO. Large quantity handlers of universal mercury waste containing devices must meet labeling and marking requirements (6 CCR 1007-3, Section 273.34 (d)) [Added March 2006].</p> <p>HW.400.2.CO. Large quantity handlers of universal waste aerosol cans must meet labeling and marking requirements (6 CCR 1007-3, Section 273.34 (e)) [Added March 2006].</p> <p>HW.400.3.CO. Large quantity handlers of universal waste lamps must meet labeling and marking requirements (6 CCR 1007-3, Section 273.34 (f)) [Added March 2006].</p> <p>HW.400.4.CO. Large quantity handlers of universal waste electronic device or components must meet labeling and marking requirements (6 CCR 1007-3, Section 273.34 (g) and (h)) [Added March 2006].</p>	<p>Verify that universal waste mercury-containing devices (i.e., each mercury-containing device), or a container in which the mercury-containing devices are contained, is labeled or marked clearly with any one of the following phrases:</p> <ul style="list-style-type: none"> - "Universal Waste Mercury-Containing Device(s)" - "Waste Mercury-Containing Device(s)" - "Used Mercury-Containing Device(s)". <p>Verify that universal waste aerosol cans (i.e., each can), or a container in which the universal waste aerosol cans are contained or accumulated, is labeled or marked clearly with any one of the following phrases: "Universal Waste-Aerosol Can(s)", or "Waste Aerosol Can(s)".</p> <p>Verify that each lamp or a container or package in which such lamps are contained is labeled or marked clearly with one of the following phrases: "Universal Waste-Lamp(s)," or "Waste Lamp(s)," or "Used Lamp(s)."</p> <p>Verify that each universal waste electronic device or a container in which universal waste electronic devices are contained is labeled or marked clearly with one of the following phrases:</p> <ul style="list-style-type: none"> - "Universal Waste-Electronic Device(s)" - "Waste Electronic Device(s)" - "Used Electronic Device(s)." <p>(NOTE: The name of the electronic device may be substituted for the words</p>

COMPLIANCE CATEGORY: HAZARDOUS WASTE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
	<p>"Electronic Device(s)" (e.g., "Universal Waste-Monitor(s)" or "Waste Monitors").)</p> <p>Verify that each universal waste electronic component or a container in which universal waste electronic components are contained is labeled or marked clearly with one of the following phrases:</p> <ul style="list-style-type: none"> - "Universal Waste-Electronic Components" - "Waste Electronic Components" - "Used Electronic Components." <p>(NOTE: The name of the electronic component may be substituted for the words "Electronic Component(s)" (e.g., "Universal Waste-Circuit Board(s)" or "Waste Circuit Board(s)").)</p>

SECTION 5

NATURAL RESOURCES MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Natural Resources Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Endangered Species* - any species or subspecies of native wildlife whose prospects for survival or recruitment within this state are in jeopardy as determined by the Commission (Colorado Revised Statutes (CRS) 33-1-102) [Added May 1998; Citation Revised March 2010].
- *Occupier* - any person, firm, any unit of state government or any agency of the state or federal government, or corporation, other than the owner, who is in lawful possession of any land within the county, whether as lessee, renter, tenant, or otherwise (CRS 35-72-101.5) [Added May 1998].
- *Owner* - any person, firm, or agency of state or federal government or unit of state government in whom is vested the ownership, dominion, or title of the property, and is recognized and held responsible by the law as owner of the property (CRS 35-72-101.5) [Added May 1998].
- *Threatened Species* - any species or subspecies of wildlife which, as determined by the commission, is not in immediate jeopardy of extinction but is vulnerable because it exists in such small numbers or is so extremely restricted throughout all or a significant portion of its range that it may become endangered (CRS 33-1-102) [Added May 1998; Revised March 2010].

NATURAL RESOURCES MANAGEMENT GUIDANCE FOR COLORADO CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
Missing Checklist Items	NR.2.1.CO.
Land Management	NR.10.1.CO.
Wildlife	NR.20.1.CO.

NATURAL RESOURCES MANAGEMENT GUIDANCE FOR COLORADO APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
5-1	Endangered and Threatened Wildlife

COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>NR.2</p> <p>MISSING CHECKLIST ITEMS</p> <p>NR.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>NR.10.</p> <p>LAND MANAGEMENT</p> <p>NR.10.1.CO. Land owners and occupiers must minimize soil erosion and soil blowing (CRS 35-72-102) [Revised May 1998].</p>	<p>Verify that, to conserve property and the natural resources of the state and to prevent the injurious effects of blowing soil, land owners and occupiers prevent soil blowing there from by planting perennial grasses, shrubs, trees, or annual or biennial crops and by treatment consisting of listing, chiseling, and similar practices at such times and in such manner as will prevent or minimize erosion of the soil and soil blowing.</p> <p>Verify that, if soil blowing is evident, such practices include, to the extent practicable, leaving stubble residue on top of the soil.</p> <p>(NOTE: The provisions of this section do not apply to any land less than one acre in area.)</p>

COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>NR.20.</p> <p>WILDLIFE</p> <p>NR.20.1.CO. Threatened and endangered wildlife must be protected (CRS 33-2-105 (3) and (4) and 33-2-106(3)) [Revised July 1997; Revised March 2009; Revised March 2009].</p>	<p>Verify that no individual takes, possesses, transports, exports, processes, sells or offers for sale, or ships any species or subspecies of wildlife appearing on the list of wildlife indigenous to Colorado determined to be endangered or threatened (see Appendix 5-1)</p> <p>(NOTE: The commission may permit the taking, possession, transportation, exportation, or shipment of species or subspecies of wildlife which appear on the state lists of endangered or threatened species for scientific, zoological, or educational purposes, for propagation in captivity of such wildlife, or for other special purposes.)</p>

Appendix 5-1

Endangered and Threatened Wildlife Species

(<http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/ThreatenedEndangeredList/ListOfThreatenedAndEndangeredSpecies.htm>)

[Revised May 1998; Revised April 2000; Revised March 2002;
Revised March 2005; Revised March 2006; Revised March 2007; Web site Revised March 2009].

COMMON NAME	SCIENTIFIC NAME	STATUS*
AMPHIBIANS		
Boreal Toad	<i>Bufo boreas boreas</i>	SE
Northern Cricket Frog	<i>Acris crepitans</i>	SC
Great Plains Narrowmouth Toad	<i>Gastrophryne olivacea</i>	SC
Northern Leopard Frog	<i>Rana pipiens</i>	SC
Wood Frog	<i>Rana sylvatica</i>	SC
Plains Leopard Frog	<i>Rana blairi</i>	SC
Couch's Spadefoot	<i>Scaphiopus couchii</i>	SC
BIRDS		
Whooping Crane	<i>Grus americana</i>	FE, SE
Least Tern	<i>Sterna antillarum</i>	FE, SE
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	FE, SE
Plains Sharp-Tailed Grouse	<i>Tympanuchus phasianellus jamesii</i>	SE
Piping Plover	<i>Charadrius melodus circumcinctus</i>	FT, ST
Bald Eagle	<i>Haliaeetus leucocephalus</i>	FT, ST
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FT, ST
Burrowing Owl	<i>Athene cunicularia</i>	ST
Lesser Prairie-Chicken	<i>Tympanuchus pallidicinctus</i>	ST
Western Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>	SC
Greater Sandhill Crane	<i>Grus canadensis tabida</i>	SC
Ferruginous Hawk	<i>Buteo regalis</i>	SC
Gunnison Sage-Grouse	<i>Centrocercus minimus</i>	SC
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	SC
Greater Sage Grouse	<i>Centrocercus urophasianus</i>	SC
Western Snowy Plover	<i>Charadrius alexandrinus</i>	SC
Mountain Plover	<i>Charadrius montanus</i>	SC
Long-Billed Curlew	<i>Numenius americanus</i>	SC
Columbian Sharp-Tailed Grouse	<i>Tympanuchus phasianellus columbianus</i>	SC
FISH		
Bonytail	<i>Gila elegans</i>	FE, SE
Razorback Sucker	<i>Xyrauchen texanus</i>	FE, SE
Humpback Chub	<i>Gila cypha</i>	FE, ST
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	FE, ST

COMMON NAME	SCIENTIFIC NAME	STATUS*
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	FT, ST
Rio Grande Sucker	<i>Catostomus plebeius</i>	SE
Lake Chub	<i>Couesius plumbeus</i>	SE
Plains Minnow	<i>Hybognathus placitus</i>	SE
Suckermouth Minnow	<i>Phenacobius mirabilis</i>	SE
Northern Redbelly Dace	<i>Phoxinus eos</i>	SE
Southern Redbelly Dace	<i>Phoxinus erythrogaster</i>	SE
Brassy Minnow	<i>Hybognathus hankinsoni</i>	ST
Common Shiner	<i>Luxilus cornutus</i>	ST
Arkansas Darter	<i>Etheostoma cragini</i>	ST
Mountain Sucker	<i>Catostomus playtrhynchus</i>	SC
Plains Orangethroat Darter	<i>Etheostoma spectabile</i>	SC
Iowa Darter	<i>Etheostoma exile</i>	SC
Rio Grande Chub	<i>Gila pandora</i>	SC
Colorado Roundtail Chub	<i>Gila robusta</i>	SC
Stonecat	<i>Noturus flavus</i>	SC
Colorado River Cutthroat Trout	<i>Oncorhynchus clarki pleuriticus</i>	SC
Rio Grande Cutthroat Trout	<i>Oncorhynchus clarki virginalis</i>	SC
Flathead Chub	<i>Platygio bio gracilus</i>	SC
MAMMALS		
Gray Wolf	<i>Canis lupus</i>	FE, SE
Black-Footed Ferret	<i>Mustela nigripes</i>	FE, SE
Grizzly Bear	<i>Ursus arctos</i>	FT, SE
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	FT, ST
Lynx	<i>Lynx canadensis</i>	FT, SE
Wolverine	<i>Gulo gulo</i>	SE
River Otter	<i>Lontra canadensis</i>	ST
Kit Fox	<i>Vulpes macrotis</i>	SE
Townsend's Big-Eared Bat	<i>Corynorhinus townsendii pallescens</i>	SC
Black-Tailed Prairie Dog	<i>Cynomys ludovicianus</i>	SC
Botta's Pocket Gopher	<i>Thomomys bottae rubidus</i>	SC
Northern Pocket Gopher	<i>Thomomys talpoides macrotis</i>	SC
Swift fox	<i>Vulpes velox</i>	SC
REPTILES		
Triploid Checkered Whiptail	<i>Cnemidophorus neotesselatus</i>	SC
Midget Faded Rattlesnake	<i>Crotalus viridis concolor</i>	SC
Longnose Leopard Lizard	<i>Gambelia wislizenii</i>	SC
Yellow Mud Turtle	<i>Kinosternon flavescens</i>	SC
Common King Snake	<i>Lampropeltis getula</i>	SC
Texas Blind Snake	<i>Leptotyphlops dulcis</i>	SC
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	SC
Roundtail Horned Lizard	<i>Phrynosoma modestum</i>	SC

COMMON NAME	SCIENTIFIC NAME	STATUS*
Massasauga	Sistrurus catenatus	SC
Common Garter Snake	Thamnophis sirtalis	SC
MOLLUSKS		
Rocky Mountain Capshell	Acroloxus coloradensis	SC
Cylindrical Papershell	Anodontoides ferussacianus	SC

*Status Codes:

FE = Federally Endangered

FT = Federally Threatened

SE = State Endangered

ST = State Threatened

SC = State Special Concern (not a statutory category)

SECTION 6

OTHER ENVIRONMENTAL ISSUES

Colorado Supplement, March 2010

OTHER ENVIRONMENTAL ISSUES GUIDANCE FOR COLORADO CHECKLIST USERS	
The National Environmental Policy Act Process	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.	
Missing Checklist Items	O1.2.1.CO.
Environmental Noise	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.	
Missing Checklist Items	O2.2.1.CO.
CERCLA Cleanup Sites	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.	
Missing Checklist Items	O3.2.1.CO.
Pollution Prevention	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.	
Missing Checklist Items	O4.2.1.CO.
Program Management	
Refer to the U.S. TEAM Guide and the DOD Component Supplements for DOD and service-specific requirements.	

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
THE NEPA PROCESS O1.2. Missing Checklist Items O1.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
ENVIRONMENTAL NOISE O2.2. Missing Checklist Items O2.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
CERCLA CLEANUP SITES O3.2 Missing Checklist Items O3.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: OTHER ENVIRONMENTAL ISSUES Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
POLLUTION PREVENTION O4.2. Missing Checklist Items O4.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

SECTION 7

PESTICIDE MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Pesticide Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Abut* - to join; to be contiguous; as where no other land, road, or street intervenes; "abut" includes two property sites that would otherwise be considered abutting, but for the fact that such sites are separated by an alley. As used herein, "alley" means a passage way within a block set apart for public use, vehicular travel, and local convenience to provide a secondary means of access to the rear or side of abutting lots or buildings (8 CCR 1203-2, Part 1.02) [Added May 1998].
- *Agricultural Chemical* - for commercial fertilizer means fertilizer material, mixed fertilizer, or any other substance containing one or more essential available plant nutrients which is used for its plant nutrient content and which is designed for use and has value in promoting plant growth. It does not include untreated animal and untreated vegetable manures, untreated peat moss, and untreated peat humus, soil conditioners, plant amendments, agricultural liming materials, gypsum, and other products exempted by regulation of the commissioner (8 CCR 1206-1, Part 1.0) [Revised March 2009].
- *Appurtenances* - all valves, pumps, fittings, pipes, hoses, metering devices, mixing containers, and dispensing devices that are connected to a storage container, or that are used to transfer bulk pesticide into or out of a storage container (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Bulk Pesticide* - any pesticide that is transported or held in an individual container in undivided quantities of greater than 55 U.S. gallons liquid measure or 100 lb net dry weight (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Bulk Pesticide Storage Facility* - any facility or site where pesticides (8 CCR 1206-1, Part 1.0) [Revised March 2009]:
 1. liquid fertilizer is being stored in any container or series of interconnected containers having a capacity greater than five thousand (5,000) gallons and is stored for a period of 30 consecutive days or more at one site
 2. fifty-five thousand (55,000) pounds or more, in the aggregate, of formulated product or combination of formulated products of bulk dry fertilizer are stored for a period of 30 consecutive days or more at one site.Any bulk fertilizer storage facility within 300 feet of another bulk fertilizer storage facility shall be considered one facility.
- *Category* - "category" shall include any sub-category thereof (8 CCR 1203-2, Part 1.0) [Citation Added May 1998].
- *Certified Operator* - an applicant for licensing as a qualified supervisor or certified operator in the structural pest control categories of outdoor vertebrates, wood preservation and wood products treatment, or stored commodities treatment, or interior plant pest control must have the following field experience or equivalents. Such field experience must have been obtained within the five years immediately preceding the date of the applicant's application for licensing: Said applicant must have obtained at least eight months field experience in the related categories of structural pest control. If said applicant has earned college or university credit in the related categories of structural pest control, such credit may be combined with field experience in related

categories of structural pest control in order to qualify for licensing or certification, as a qualified supervisor, as follows: Two years college credit and two months field experience; or One year college credit and five months field experience. an individual who mixes, loads, or applies any pesticide, including restricted use pesticides, under the supervision of a qualified supervisor (8 CCR, 1203-2, Part 10.03) [Citation Revised May 1998].

- *Dry Pesticide* - any fertilizer which is in solid form prior to any application or mixing for application (8 CCR 1206-1, Part 1.0) [Revised March 2009].
- *Engaged In The Business Of Applying Pesticides For Hire* - means the evaluation of pest problems; the recommendation of pest controls and evaluation of results; the mixing, loading or application of pesticides; and/or the soliciting, advertising, offering or contracting to do any of the above, in return for money or anything of value, including goods or services. Notwithstanding anything to the contrary in the foregoing, the rendering of consultation services by an individual in evaluating pest problems, recommending pest controls and/or evaluating results, shall not be deemed to constitute the application of pesticides for hire, if said individual is not affiliated with, or soliciting business for, any person or business entity which performs the mixing, loading, or application of pesticides (8 CCR 1203-2, Part 1.02).
- *Fumigant* - means any substance which by itself or in combination with other substances emits or liberates a gas or gases, fumes or vapors, and which gas or gases, fumes or vapors when liberated and used will destroy vermin, rodents, insects, and other pests, but are usually lethal, poisonous, noxious, or dangerous to human life (8 CCR 1203-2, Part 1.02).
- *Impervious* - that the structure shall be maintained so that liquid pesticide or water does not move through it at a rate that exceeds 1×10^{-7} centimeters per second (0.0035 inches per day) (8 CCR 1206-1, Part 1.0) [Added March 2007; Citation Revised March 2009].
- *Limited Commercial Applicator* - any person who in the course of conducting a business only in or on property owned or leased by the person or the person's employer ("limited commercial applicator") is engaged in applying restricted use pesticides. (8 CCR 1203-2, Part 2, Subpart B(2.18)) [Citation Revised May 1998].
- *Liquid Pesticide* - any pesticide in liquid form, including solutions, emulsions, suspensions, and slurries (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Mixing and Loading Area* - a physical site where fertilizers are transferred, loaded, unloaded, mixed, repackaged, refilled or where fertilizers are cleaned, washed or rinsed from containers or application, handling, storage or transportation equipment in conjunction with a bulk fertilizer storage facility (8 CCR 1206-1, Part 1.0) [Revised March 2009].
- *Mobile Container* - any storage container designed for transportation (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Primary Containment* - the storage of bulk liquid pesticides in storage containers at a storage facility (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Proof of Medical Justification* - means a statement signed by a physician licensed to practice medicine in Colorado pursuant to Article 36 of title 12, C.R.S. which states: I certify that the individual named above is a patient of mine and should be placed on the list of pesticide sensitive individuals. This individual has a documented sensitivity to certain pesticides and should not be exposed to them because of the reason(s) described below: (8 CCR 1203-2, Part 1.02) [Added May 1998].
- *Property Damage* - includes, but is not limited to, injury to domestic animals, livestock and economically important insects (8 CCR 1203-2, Part 1.02) [Added May 1998].

- *Public Applicator* - any agency of the state, any county, city and county, or municipality, or any other local governmental entity or political subdivision ("public applicator") which applies restricted use pesticides shall register with the commissioner, any person who in the course of conducting a business only in or on property owned by the person or the person's employer applies pesticides any agency of the state, any county, or municipality, or any other local governmental entity or political subdivision who applies pesticides (8 CCR 1203-2, Part 2, Subpart B(2.18)) [Citation Revised May 1998].
- *Restricted Use Pesticide* - Pesticides containing the following active ingredients when used as herbicides are hereby declared to be state restricted use pesticides and shall only be distributed to certified applicators. The pesticides are for retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.
 1. Bromacil
 2. Diuron
 3. Monuron
 4. Prometon
 5. Sodium chlorate
 6. Tebuthiuron
 7. Sodium metaborate (8 CCR 1203-1, Part 13.1) [Citation Revised May 1998].
- *Secondary Containment* - any structure used to contain product spills from primary containment and prevent runoff or leaching (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Storage Container* -
 1. a container used for the storage of bulk pesticide
 2. a nurse tank or other mobile container used for the storage of bulk pesticide (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *Structure* - any building, regardless of its design or the type of material used in its construction, whether public or private, vacant or occupied, the foundation thereof, and the adjacent outside areas, and shall also include but shall not be limited to warehouses, trucks, boxcars, boats, airplanes, other vehicles, or the contents thereof, and fumigation vaults (8 CCR 1203-2, Part 1.02).
- *Sump* - a shallow reservoir or area at the lowest point of the bulk pesticide facility or mixing and loading area that allows for the temporary collection and retrieval of liquid (8 CCR 1206-1, Part 1.0) [Citation Revised March 2009].
- *To Use Any Pesticide in a Manner Inconsistent with Labeling Directions or Requirements* - includes, but is not limited to, for termiticides only, the use of a termiticide at any concentration less than that stated on the labeling (8 CCR 1203-2, Part 1.02 [Added May 1998; Citation Revised March 2010]).
- *Use* - any and all aspects of the handling of pesticides from the time a pesticide container is opened until disposal of the pesticide container, including without limitation, the mixing, loading, application, spill control, and disposal of a pesticide or its container (8 CCR 1203-2, Part 1.02).

PESTICIDE MANAGEMENT GUIDANCE FOR COLORADO CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
Missing Checklist Items	PM.2.1.CO.
Pesticide Applicators	PM.5.1.CO. through PM.5.9.CO.
Pesticide Application	
General	PM.10.1.CO. through PM.10.7.CO.
Agriculture	PM.20.1.CO.
Documentation	PM.40.1.CO. through PM.40.4.CO.
Storage/Mixing/Handling	PM.45.1.CO. through PM.45.12.CO.
Transportation	PM.50.1.CO.
Bulk Pesticides	PM.60.1.CO. through PM.60.24.CO.

PESTICIDE MANAGEMENT GUIDANCE FOR COLORADO APPENDIX USERS	
REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
7-1	Categories of Pesticide Application

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PM.2</p> <p>MISSING CHECKLIST ITEMS</p> <p>PM.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PM.5.</p> <p>PESTICIDE APPLICATORS</p> <p>PM.5.1.CO. Restricted use pesticides must be applied only by certified applicators (8 CCR 1203-1, Section 13.1) [Revised March 2009; Citation Revised March 2010].</p> <p>PM.5.2.CO. Persons engaged in the business of applying pesticides must be licensed as commercial applicators (8 CCR 1203-2, Section 2.1).</p> <p>PM.5.3.CO. Commercial applicators who apply pesticide aerially must meet licensing requirements (8 CCR 1203-2, Section 2.14) [Revised March 1999].</p> <p>PM.5.4.CO. Limited commercial applicators and public applicators engaged in applying restricted use pesticides must register with</p>	<p>(NOTE: The following, in addition to Federal restricted use pesticides (see U.S. TEAM Guide for list), are state restricted use pesticides when used as herbicides:</p> <ul style="list-style-type: none"> - bromacil - diuron - monuron - prometon - sodium chlorate - tebuthiuron - sodium metaborate.) <p>Verify that state restricted use pesticides are distributed only to licensed dealers, licensed applicators, or their authorized agents.</p> <p>Verify that state restricted use pesticides are not distributed to any applicator that is not licensed in the appropriate category to apply that pesticide.</p> <p>Verify that persons engaged to apply pesticides are licensed as commercial applicators in the appropriate category or categories of pesticide licensing (See Appendix 7-1).</p> <p>Verify that commercial applicators who apply pesticide aerially have an endorsement on their licenses by the Commissioner permitting such applications.</p> <p>Verify that commercial applicators who apply pesticides aerially employ at least one pilot who currently holds a commercial agricultural aircraft operator certificate issued by the Federal Aviation Administration and U.S. Department of Transportation.</p> <p>(NOTE: A limited commercial applicator or public applicator that exclusively applies general use pesticides is not required to register with the Commissioner.)</p> <p>Verify that commercial applicators and public applicators engaged in applying</p>

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<p>the Commissioner (8 CCR 1203-2, Sections 2.18, 2.19 and 2.20).</p>	<p>restricted use pesticides are registered with the Commissioner.</p> <p>Verify that registration is renewed annually.</p> <p>Verify that limited commercial applicators and public applicators employ one or more individuals who are qualified supervisors licensed in the appropriate category or categories of pesticide licensing.</p> <p>Verify that limited commercial applicators and public applicators who apply pesticides aerially have an endorsement on their licenses permitting such applications.</p> <p>Verify that limited commercial applicators and public applicators who apply pesticides aerially employ at least one pilot who currently holds a commercial agricultural aircraft operator certificate issued by the Federal Aviation Association, and U.S. Department of Transportation.</p> <p>Verify that, when operations are so extensive that one individual cannot adequately supervise all pest control operations, additional supervisors are available.</p>
<p>PM.5.5.CO. Persons employed by licensed commercial applicators, limited commercial applicators or public applicators and perform specific pesticide functions or supervise others in those functions must be licensed (8 CCR 1203-2, Section 2.30, 2.32 and 2.33) [Revised March 2009].</p>	<p>Verify that persons employed as licensed commercial applicators, limited commercial applicators or public applicators and who, without supervision, evaluate pest problems, recommend pest control using pesticides or devices, mix, load, apply any pesticides, sell application services, or operate devices, or supervise others in any of these functions are licensed as qualified supervisors.</p> <p>Verify that a registered limited commercial applicator or a registered public applicator has at least one qualified supervisor for every 15 technicians, of which no more than 8 may be unlicensed technicians.</p> <p>Verify that a responsible qualified supervisor is available while any technician under their supervision is using a pesticide.</p> <p>Verify that persons who mix, load, or apply any restricted use pesticide are either supervised onsite by a qualified supervisor or are licensed as a certified operator.</p>
<p>PM.5.6.CO. [Deleted March 2009].</p>	<p>(NOTE: 8 CCR 1203-2, Section 2.33 combined in PM5.5.CO.)</p>
<p>PM.5.7.CO. Experienced technicians must be trained and have specific experience</p>	<p>Verify that experienced technicians are trained and have the following minimum experience within the past 3 yr:</p>

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<p>in pesticide application during the past 3 yr (8 CCR 1203-2, Section 5.1).</p>	<ul style="list-style-type: none"> - for applicator technicians doing structural applications, 6 mo of experience including time in training - for applicator technicians doing agricultural, turf, ornamental, or turf and ornamental application, one season of experience including time in training - for sales technicians, one season of sales experience. <p>(NOTE: For the purposes of this section, “applicator technician” means a technician whose job includes the use of pesticides; and “experienced technician” means a technician who has been trained and has the required minimum experience within the past 3 yr.)</p>
<p>PM.5.8.CO. Commercial applicators classified in the structural categories must at the time of application of any pesticide leave for each customer a statement containing specific information (8 CCR 1203-2, Sections 10.04, 10.05).</p>	<p>Verify that commercial applicators classified in the structural categories (see Appendix 7-1), leave for the customer a printed or legibly written statement disclosing the following information:</p> <ul style="list-style-type: none"> - the name of the pesticide(s) applied - the date of application - any precautionary statements appearing on the pesticide’s label as are necessary or appropriate to avoid endangering the health of person or animal or doing harm to property. <p>(NOTE: In the event that customer is not the occupant, at the time of pesticide application a commercial applicator licensed in any structural pest control category must leave for the occupant, a printed or legibly written notice stating the name of each pesticide applied, the date applied, and such precautionary statements from the label of the pesticide as are necessary or appropriate to avoid endangering human or animal health, or to avoid creating an unreasonable risk of damage to property.)</p>
<p>PM.5.9.CO. Qualified pesticide applicator supervisors must notify the Commissioner when they initiate or terminate employment with a licensee, or when they change branches, divisions, satellite offices or employers (8 CCR 1203-2, Section 7.04).</p>	<p>Verify that qualified supervisors notify the Commissioner, in writing, when they begin employment with a commercial, limited commercial, or public applicator, terminate employment with a licensee, or when they change branches, divisions, satellite offices, or employers.</p> <p>Verify that notification is made within 15 days of such employment, termination, or change.</p>

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<p>PESTICIDE APPLICATION</p> <p>PM.10. General</p> <p>PM.10.1.CO. Commercial, limited commercial, and registered public applicators making a pesticide application in any turf or ornamental category must post at least one sign notifying the public of the application (8 CCR 1203-2, Section 13.01) [Revised March 2007].</p> <p>PM.10.2.CO. Notice-of-pesticide application signs must meet specific standards concerning design and placement (8 CCR 1203-2, Sections 13.02 and 13.03).</p> <p>PM.10.3.CO. Notice-of-pesticide application signs for use in recreational or common property areas must be posted immediately adjacent to areas within the property where pesticides have been applied (8 CCR 1203-2, Section 13.04) [Revised March 2005].</p>	<p>Verify that commercial, limited commercial, and public applicators making a pesticide application in any turf or ornamental category post, at the time of application, at least one sign notifying the public of the application.</p> <p>Verify that the bottom of each notice-of-application sign projects at least 18 in. above the ground and that the top of the sign is no higher than 48 in. above the ground.</p> <p>Verify that signs are placed in a lawn or yard according to the following:</p> <ul style="list-style-type: none"> - at the property boundary between 2 ft and 5 ft from the sidewalk - if there is no sidewalk, between 2 ft and 5 ft from the road - if there is no road, between 2 ft and 5 ft from the property boundary. <p>(NOTE: When landscaping or other conditions would make a sign inconspicuous or illegible posted within the distances specified above, the sign must be posted in a similar manner so that it is conspicuous and easily legible to any adult or child entering or passing the property on foot.)</p> <p>Verify that notice-of-application signs for greenbelts, parks, golf courses, athletic fields, playgrounds, common property of multi-unit residential and commercial properties, or other similar recreational or common property are posted immediately adjacent to areas within the property where pesticides have been applied in a manner that is conspicuous and easily legible to any adult or child entering the treated areas.</p> <p>(NOTE: For applications on a golf course, the applicator must post a sign at the clubhouse and at the first tee and the tenth tee notifying the public of the application.)</p>

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<p>PM.10.4.CO. Commercial, limited commercial, or registered public applicator making an aquatic pesticide application in any body of water with any legal public access must post a sign notifying the public of the application at each place of legal public access (8 CCR 1203-2, Section 13.05) [Revised March 2002; Revised March 2007].</p>	<p>Verify that commercial, limited commercial, or public applicators making aquatic pesticide application in any body of water with any legal public access post a sign notifying the public of the application at each place of legal public access.</p>
<p>PM.10.5.CO. Pesticides applied or distributed within the state must be registered with the Commissioner (8 CCR 1203-1, Section 3.1) [Added November 1996].</p>	<p>Verify that every pesticide product is registered with the Commissioner.</p>
<p>PM.10.6.CO. Commercial and public applicators must comply with pesticide labeling requirements (8 CCR 1203-2, Section 7.05) [Added March 2005; Revised March 2010].</p>	<p>Verify that the original product container with labeling or a copy of the pesticide label and any attached labeling for each product in use is in the possession of the applicator at the site of application whenever a pesticide application is performed.</p> <p>(NOTE: This rule does not apply to aerial applicators or private applicators.)</p>
<p>PM.10.7.CO. A commercial, registered limited commercial, or registered public applicator must take reasonable actions to give notice of the date and approximate time of pesticide application to persons placed on the pesticide-sensitive registry (8 CCR 1203-1, Section 12) [Added March</p>	<p>Verify that any person who resides on property which abuts the property to be treated and whose name is on the published registry is given notice of the date and approximate time of any turf or ornamental pesticide application, prior to the application.</p> <p>Verify that an applicator meets this requirement by making not less than two attempts to notify any owner or tenant who is on the registry.</p> <p>Verify that notification attempts are made as early as practicable but not later than twenty-four hours before the application.</p> <p>Verify that commercial, registered limited commercial, or registered public</p>

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2007].	<p>applicator take reasonable actions to give notice of the date and approximate time of any wood-destroying, residential/commercial, or interior plant pest control pesticide application, made to multi-unit dwellings, prior to the application, to any person who resides in the multi-unit dwelling to be treated and whose name is on the published registry.</p> <p>(NOTE: Notice may be by any method, including telephone, mail or personal notification. If attempts at notification by the applicator fail, and a pesticide application is necessary, the commercial, registered limited commercial, or registered public applicator shall attempt to notify the resident in person immediately prior to the application. Notice of the application and attempts at notification shall be placed on the door of the person requesting notification if all notification attempts fail.)</p>

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<p>PESTICIDE APPLICATION</p> <p>PM.20. Agriculture</p> <p>PM.20.1.CO. Commercial applicators classified in the agricultural categories (see Appendix 7-1) must provide specific notices of pesticide applications (8 CCR 1203-2, Section 8.03).</p>	<p>Verify that, prior to each application, commercial applicators classified in the agricultural categories provide customers with the following information:</p> <ul style="list-style-type: none"> - the pesticide(s) to be applied - the site of application - applicable re-entry intervals - applicable grazing intervals - applicable preharvest intervals - any precautionary statement contained on the applicable pesticide label(s). <p>(NOTE: This notice may be oral.)</p> <p>Verify that after the application, commercial applicators classified in the agricultural categories promptly furnish customers with written notice that includes the following:</p> <ul style="list-style-type: none"> - the pesticide(s) applied - the amount of each pesticide applied - the date of application - the site of application - applicable re-entry intervals - applicable grazing intervals - applicable crop rotation intervals - any precautionary statements contained on the pesticide label(s). <p>(NOTE: An applicator may furnish a copy of the pesticide label to satisfy the information requirement.)</p> <p>(NOTE: In the event that a Commercial applicator classified in the agricultural categories performs an application at a site that is occupied by someone other than the applicator's customer, the applicator is responsible for provide the required information to the person(s) who are occupying the site as well as to the customer except for applications to crops or to large-scale pest control programs.)</p>

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PESTICIDE APPLICATION PM.40. Documentation PM.40.1.CO. Limited commercial and public applicators records must contain specific information (8 CCR 1203-2, Section 6.03) [Revised March 2002; Revised March 2005]. PM.40.2.CO. Licensed commercial pesticide applicators must maintain accurate and legible office records of each application of pesticides made for hire (8 CCR 1203-2, Section 6.01). PM.40.3.CO. Limited commercial pesticide applicators and public applicators must maintain accurate and legible records of each application of restricted use pesticides (8 CCR 1203-2, Section 6.02). PM.40.4.CO. Licensed private applicators must maintain accurate and legible records of each restricted use	<p>Verify that all records contain the following information:</p> <ul style="list-style-type: none"> - name and address of person for whom application was made - complete description of the location where application was made - specific target pest - site, crop, commodity, or structure treated - specific pesticide applied - dilution rate and application rate - carrier, if other than water - date and time (within 1/2 h accuracy) of application - name of person who made the application (i.e., technician, certified operator, qualified supervisor), including both the name of the technician and the responsible on-site qualified supervisor, if applicable. <p>Verify that licensed commercial applicators maintain accurate and legible office records of each application of pesticides made for hire.</p> <p>Verify that limited commercial applicators and public applicators maintain accurate and legible records of each application of restricted use pesticides.</p> <p>Verify that licensed private applicators maintain accurate and legible records of each restricted use pesticide application in accordance with all regulations of the United States Department of Agriculture's federal pesticide recordkeeping requirements set forth in the Code of Federal Regulations, at 7 C.F.R., Part 110</p>

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pesticide (8 CCR 1203-2, Section 6.05) [Added March 2007].	(2006), incorporated herein by reference (later amendments not included). Verify that required records are retained for a period of 3 years from the date of the pesticide application.

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<p>PM.45.</p> <p>STORAGE/MIXING/ HANDLING</p> <p>PM.45.1.CO. Backflow prevention devices must be installed in the water supply line serving a pesticide facility (8 CCR 1206-1, Section 18.1) [Citation Revised March 2010].</p> <p>PM.45.2.CO. Pesticide storage areas of licensed applicators must be kept clean and orderly (8 CCR 1203-2, Section 11.02) [Revised May 1998].</p> <p>PM.45.3.CO. Pesticide storage areas of licensed applicators located indoors must be secured from access by unauthorized persons and locked at specific times (8 CCR 1203-2, Section 11.03) [Revised May 1998].</p> <p>PM.45.4.CO. Pesticide storage areas of licensed applicators located outdoors must meet specific standards (8 CCR 1203-2, Section 11.04) [Revised May 1998].</p> <p>PM.45.5.CO. Pesticide storage areas of licensed applicators must be marked</p>	<p>Verify that an air gap separation or a reduced pressure principle backflow prevention assembly is installed in the water supply line that serves the pesticide facility.</p> <p>Verify that pesticide storage areas are kept clean and orderly, and that pesticide containers are positioned so that they are not exposed to unreasonable risk of damage to the containers or their labels.</p> <p>Verify that indoor pesticide storage areas are secured from access by unauthorized persons, including the general public, and locked when the building is unoccupied by an applicator or his or her employees.</p> <p>Verify that outdoor storage areas are fenced or walled and locked.</p> <p>Verify that pesticides and pesticide containers are covered or otherwise protected from the elements, in a manner that is reasonably calculated to minimize the risk of damage to label and to avoid the creation of an unreasonable risk of harm to persons, property or domestic or wild animals.</p> <p>Verify that pesticide storage areas are marked with a sign, in letters at least 1 in. high, that reads:</p>

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<p>with a specific sign (8 CCR 1203-2, Section 11.05) [Revised May 1998].</p>	<p>WARNING: HAZARDOUS MATERIALS (PESTICIDES) ARE CONTAINED WITHIN In case of emergency, contact: (name) at (telephone number).</p> <p>(NOTE: Compliance with this rule is not necessary for any person who has marked the storage areas with signs that comply with the local fire department requirements.)</p>
<p>PM.45.6.CO. Pesticide storage areas of licensed applicators must provide the local fire department with specific information (8 CCR 1203-2, Section 11.06) [Revised May 1998].</p>	<p>Verify that licensees storing pesticides inform the local fire department of the location of the pesticide storage area and provide the fire department with material safety data sheets for all pesticides held in that location.</p>
<p>PM.45.7.CO. Pesticide storage areas of licensed applicators must have fire extinguishers and materials for use in cleaning up pesticide spills at each storage location (8 CCR 1203-2, Section 11.07) [Revised May 1998].</p>	<p>Verify that licensees storing pesticides have, at each storage location and in good working order, one or more fire extinguishers rated for chemical fires, and materials for use in cleaning up pesticide spills.</p>
<p>PM.45.8.CO. Pesticide storage areas of licensed applicators must be inspected and maintained (8 CCR 1206-1, Section 15.2) [Revised May 1998; Citation Revised March 2010].</p>	<p>Verify that the following portions of a pesticide storage area are visually inspected at regular intervals:</p> <ul style="list-style-type: none"> - secondary containment structures - storage containers - appurtenances - mixing and loading areas. <p>Verify that such items are maintained as necessary to assure compliance.</p>
<p>PM.45.9.CO. Primary storage containers and appurtenances for liquid pesticides must meet specific design and operating</p>	<p>Verify that the liquid pesticide primary storage container and any appurtenance:</p> <ul style="list-style-type: none"> - prevents the unintentional discharge of liquid pesticide - resists corrosion, puncture, and cracking - is not made of polyvinyl chloride

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standards (8 CCR 1206-1, Sections 13.8 and 13.11) [Revised March 2007; Revised March 2010].	<ul style="list-style-type: none"> - does not contain materials that react chemically or electrolytically with stored pesticide in a way that can weaken the container or appurtenance, create the risk of discharge, or adulterate the pesticide - is designed to handle all operating stresses, taking into account static head, pressure buildup from pumps and compressors, and any other physical stresses in the foreseeable course of operations - is protected against reasonably foreseeable risks of damage from pesticide loading and unloading. <p>Verify that the metals used for valves, fittings, and repairs on metal containers do not cause or increase corrosion or create a risk of discharge when combined with the metals of the storage container.</p> <p>(NOTE: Storage containers may be made of ferrous materials only if any of the following occur:</p> <ul style="list-style-type: none"> - the container is made of stainless steel - the container has a protective lining that inhibits corrosion and does not react chemically with the stored pesticide - ferrous metal is the manufacturer's recommended material for the container.) <p>PM.45.10.CO. Appurtenances for liquid pesticide storage containers must meet specific requirements (8 CCR 1206-1, Section 13.9) [Revised March 2007; Revised March 2010].</p> <p>Verify that each storage container connection (except safety relief connections) has a shutoff valve located on the storage container or at a distance from the storage container consistent with standard engineering practice.</p> <p>Verify that shut-off valves are left closed and secured except during use.</p> <p>Verify that all wetted parts inside the shutoff valve and all connections from the storage container to the shutoff valve are made of stainless steel or the pesticide manufacturer's recommended material.</p> <p>Verify that pipes and fittings are adequately supported to prevent sagging and breaking in the ordinary course of operations.</p> <p>Verify that a flexible connection is required between the plumbing and the tank to reduce risk of rupture.</p> <p>PM.45.11.CO. Liquid pesticide storage containers must have liquid level gauging devices (8 CCR 1206-1, Section 13.10) [Citation Revised March 2010].</p> <p>Verify that the liquid pesticide storage container has a liquid level gauging device that:</p> <ul style="list-style-type: none"> - readily and safely determines the level of liquid in the container - is secured in a safe manner. <p>(NOTE: Liquid level gauging devices are not required if the level in the storage container can be readily and reliably measured by other means.)</p>

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<p>PM.45.12.CO. Licensed private pesticide applicators must meet storage requirements (8 CCR 1203-2, Sections 11.09, 11.10, and 11.11) [Revised March 2007; Citation Revised March 2010].</p>	<p>Verify that no external sight gauges are used to determine the level of liquid.</p> <p>Verify that all licensed private applicators store pesticide concentrates and dilute mixtures using methods that are reasonably calculated to prevent the creation of an unreasonable risk of harm to persons, property, domestic or wild animals, or the environment.</p> <p>Verify that pesticide containers are stored so that they are not exposed to unreasonable risk of damage to the containers or their labels.</p> <p>Verify that pesticides and pesticide containers, stored in outdoor pesticide storage areas, are covered or otherwise protected from the elements, in a manner which is reasonably calculated to minimize the risk of damage to labels, and to avoid the creation of an unreasonable risk of harm to persons, property or domestic or wild animals.</p>

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<p>PM.50.</p> <p>TRANSPORTATION</p> <p>PM.50.1.CO. All motor vehicles, trailers other than compressors, and mobile application equipment while used or permitted to be used for or on behalf of any commercial or public applicator for applying or carrying pesticides must be specifically identified (8 CCR 1203-2, Section 7.02) [Revised March 2005].</p>	<p>Verify that motor vehicles, trailers other than compressors, and mobile application equipment while used for applying or carrying pesticides are identified by displaying on both sides of the vehicle the company name in letters not less than 2 in. in height and city and state of licensee's place of business in letters not less than 1 in. in height.</p> <p>Verify that vehicles with a spray tank holding more than a ten-gallon capacity that due to the size or design of the vehicle do not provide sufficient surface area to comply with the identification requirements above are identified by displaying thereon, in letters not less than 1 inch high, the company business name of said licensee.</p> <p>Verify that the lettering on a licensee's equipment is clearly legible, and is not rendered difficult to read or illegible by means of paint fading, scuffing, wear and tear, damage, or any other cause.</p> <p>(NOTE: This identification is not required for aircraft, small capacity sprayers with less than a 10-gal capacity, and application equipment mounted on identified vehicles.)</p>

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<p>PM.60.</p> <p>BULK PESTICIDES</p> <p>PM.60.1.CO. Bulk pesticide storage facilities must have a mixing and loading area (8 CCR 1206-1, Section 12.5) [Revised March 2007; Citation Revised March 2009].</p> <p>PM.60.2.CO. Bulk pesticide containers must meet management requirements (8 CCR 1206-1, Section 13.12 and 13.14) [Revised March 2007; Citation Revised March 2009].</p> <p>PM.60.3.CO. Bulk pesticide storage containers must not be overfilled (8 CCR 1206-1, Section 13.17) [Citation Revised March 2009].</p> <p>PM.60.4.CO. Bulk pesticide storage containers must be secured (8 CCR 1206-1, Section 13.16) [Citation Revised March 2009].</p>	<p>Verify that all bulk pesticide storage facilities are have a mixing and loading area.</p> <p>Verify that liquid pesticide storage container has a vent or other device designed to relieve excess pressure, prevent losses by evaporation, and exclude precipitation.</p> <p>Verify that storage container bears a label stating:</p> <ul style="list-style-type: none"> - the complete product label required by the USEPA - the total capacity of the bulk storage tank. <p>Verify that the label is placed on the storage container so as to be visible from the outside of the secondary containment structure.</p> <p>Verify that the label is kept in readable condition.</p> <p>Verify that the storage container is not filled to more than 95 percent of capacity.</p> <p>(NOTE: This limit may be exceeded provided that:</p> <ul style="list-style-type: none"> - the storage container construction or location provides constant temperature control - the storage container is a mini-bulk pesticide container - manufacturer's specifications allow it.) <p>Verify that the storage container is anchored, elevated, or secured by some other means to prevent flotation or instability resulting from liquid accumulations within the secondary containment structure.</p>

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<p>PM.60.5.CO. Bulk pesticides must be secured (8 CCR 1206-1, Section 15.1) [Added November 1996; Citation Revised March 2009].</p>	<p>Verify that all bulk pesticides in the pesticide facility are secured against access by unauthorized persons.</p> <p>Verify that valves on bulk pesticide storage containers are locked and secured, except when persons responsible for facility security are present at the pesticide facility.</p> <p>(NOTE: Valves on empty storage containers need not be secured.)</p>
<p>PM.60.6.CO. Pads used as mixing and loading areas for bulk liquid pesticides must meet capacity requirements (8 CCR 1206-1, Section 13.5) [Revised March 2007; Citation Revised March 2009].</p>	<p>Verify that the mixing and loading pad is of adequate size and design to contain either:</p> <ul style="list-style-type: none"> - 125 percent of the volume of the largest container to be handled if unprotected from precipitation - 110 percent of the volume of the largest container to be handled if protected from precipitation. <p>(NOTE: Pads need only be large enough to hold a minimum of 1500 gal if unprotected from precipitation or 1320 gal if protected from precipitation provided that any storage container or mobile container to be loaded or unloaded has a capacity greater than 1200 gal.)</p> <p>(NOTE: If the primary use of the pad is to load and unload spray equipment, and associated support vehicles use the pad only for occasional delivery of pesticides, then the pad size is determined by the volume of the largest container on the spray equipment or support vehicles provided the pad is designed so that that bulk transport vehicles can conduct their occasional operations with all their appurtenances over the pad.)</p>
<p>PM.60.7.CO. Mixing and loading pads for bulk pesticides must meet certain design requirements (8 CCR 1206-1, Sections 13.7(a) through (d), (g) and (h)) [Revised March 2007; Citation Revised March 2009].</p>	<p>Verify that the mixing and loading pad is large enough so that the tank and appurtenances are physically over the pad provided that no flushing of the boom system occurs.</p> <p>Verify that the mixing and loading pad</p> <ul style="list-style-type: none"> - is constructed of liquid-tight, reinforced concrete or other material so as to form an impervious barrier between the pesticide handling area and the surrounding area - prevents storm water runoff from moving onto or across the mixing and loading pad does not have any outlet points - is able to handle anticipated the wheel loads of any vehicles served on it - is designed to drain liquids to a sump.

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<p>PM.60.8.CO. Mixing and loading pads for bulk pesticides must meet permeability requirements (8 CCR 1206-1, Sections 13.7(e) and (f)) [Revised March 2007; Citation Revised March 2009].</p>	<p>Verify that the pad has a permeability rate not exceeding 1×10^{-7} cm/sec (0.0035 in./day).</p> <p>Verify that the pad is maintained as impervious for the usable life of the structure.</p> <p>(NOTE: The pesticide facility may meet the water permeability requirement by providing a citation identifying a material's specification that, when followed, will provide an equivalent permeability.)</p>
<p>PM.60.9.CO. Sumps used in mixing and loading pads for bulk pesticides must meet specific requirements (8 CCR 1206-1, Sections 13.7(i) and 13.7(j)) [Citation Revised March 2009].</p>	<p>Verify that the associated sump:</p> <ul style="list-style-type: none"> - is watertight and resists corrosion caused by pesticides - is drained only by a manually activated pump during the operating season for pesticide mixing. <p>(NOTE: Automatic pumps may be used during the inactive season.)</p>
<p>PM.60.10.CO. Pads used for mixing and loading dry bulk pesticides must meet specific standards (8 CCR 1206-1, Sections 14.2(a) through 14.2(e)) [Citation Revised March 2009].</p>	<p>Verify that all loading, unloading, mixing, and handling of dry pesticide is done on a mixing and loading pad that:</p> <ul style="list-style-type: none"> - is large enough and designed to contain the pesticide being mixed or loaded - allows for collection of spilled material - facilitates easy cleanup of spills - forms a barrier between the pesticide handling area and the surrounding earth is maintained as a barrier between the product and the surrounding earth for the life of the structure - handles anticipated wheel loads of vehicles served on it.
<p>PM.60.11.CO. Bulk pesticide discharges or precipitation accumulations in mixing and loading areas must be promptly recovered (8 CCR 1206-1, Section 13.6) [Citation Revised March 2009].</p>	<p>Verify that the bulk pesticide facility promptly recovers pesticide discharges and precipitation accumulations in the mixing or loading area.</p> <p>Verify that items are on hand and readily available to recover such discharges to the maximum extent possible.</p> <p>(NOTE: Pesticide discharges, rinsates, or precipitation containing pesticide material may be utilized for its intended purpose provided that it can be applied according to label instructions or properly disposed of according to state or Federal law.)</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PM.60.12.CO. Secondary containment structures for bulk pesticides must meet specific requirements (8 CCR 1206-1, Section 13.13) [Citation Revised March 2009].</p>	<p>Verify that the secondary containment structure stores only:</p> <ul style="list-style-type: none"> - liquid pesticides - pesticide diluent - empty pesticide containers - pesticide discharges recovered from the bulk pesticide storage facility or the mixing and loading area. <p>(NOTE: The liquid bulk pesticide secondary containment structure may share a wall or portion of a wall with a liquid bulk fertilizer secondary containment structure.)</p>
<p>PM.60.13.CO. Secondary containment structures for bulk liquid pesticides must meet specific requirements (8 CCR 1206-1, Sections 13.1, 13.2, and 13.4(a)) [Citation Revised March 2009].</p>	<p>Verify that all primary containment is located within a secondary containment structure.</p> <p>Verify that secondary containment has sufficient capacity to hold both:</p> <ul style="list-style-type: none"> - the capacity of the largest storage container within the secondary containment structure - the total volume of discharged liquid that would be displaced by the submerged portions of all other storage devices located within the secondary containment structure. <p>Verify that, in addition to the capacity requirements above, secondary containment holds either:</p> <ul style="list-style-type: none"> - 25 percent of the capacity of the largest storage container located within the secondary containment structure, if the structure is unprotected from precipitation - 10 percent of the capacity of the largest storage container located within the secondary containment structure, if the structure is protected from precipitation.
<p>PM.60.14.CO. Pesticide discharges or precipitation accumulations in bulk liquid pesticide secondary containment structures must be promptly recovered (8 CCR 1206-1, Section 13.3) [Citation Revised March 2009].</p>	<p>Verify that the bulk pesticide facility promptly recovers pesticide discharges and precipitation accumulations in the secondary containment structure.</p> <p>Verify that items are on hand and readily available to recover such discharges to the maximum extent possible.</p> <p>(NOTE: Pesticide discharges, rinsates, or precipitation containing pesticide material may be utilized for its intended purpose provided that it can be applied according to label instructions or properly disposed of according to state or Federal law.)</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PM.60.15.CO. Secondary containment structures for bulk liquid pesticides must meet certain design standards (8 CCR 1206-1, Sections 13.4(n) through 13.4(q)) [Citation Revised March 2009].</p>	<p>Verify that secondary containment walls are sufficiently high to allow:</p> <ul style="list-style-type: none"> - easy inspection of the tank from outside the containment area - easy egress from the containment area. <p>Verify that there is sufficient clearance between the tank and each secondary containment wall to allow for visual inspection of the tank from all sides.</p> <p>Verify that electrical controls in the secondary containment structure are elevated above the level of the containment wall.</p> <p>Verify that bulk liquid pesticides are not contained by means of:</p> <ul style="list-style-type: none"> - clay - natural soil-clay mixtures - clay-bentonite mixtures - prefabricated bentonite liners.
<p>PM.60.16.CO. Secondary containment structures for bulk liquid pesticides that use synthetic liners must follow manufacturer specifications and meet documentation requirements (8 CCR 1206-1, Section 13.4(r)) [Revised March 2007; Citation Revised March 2009].</p>	<p>Verify that the facility manager obtains written confirmation of compatibility, durability, and a written estimate of the life of the synthetic liner from the manufacturer.</p> <p>Verify that this document is kept at the facility as a permanent record.</p> <p>Verify that synthetic liners are installed according to the manufacturer's specifications and under the supervision of a qualified representative of the manufacturer, and all seams are tested, and repaired if necessary, in accordance with the manufacturer's recommendations.</p>
<p>PM.60.17.CO. Secondary containment for bulk liquid pesticides must meet permeability requirements (8 CCR 1206-1, Section 13.4(d)) [Citation Revised March 2009].</p>	<p>Verify that the secondary containment structure has a water permeability rate not exceeding 1×10^{-7} cm/s (0.0035 in./day).</p> <p>(NOTE: The bulk pesticide storage facility may meet the water permeability requirement by providing a citation identifying a material's specification that, when followed, will provide an equivalent permeability.)</p>
<p>PM.60.18.CO. Walls and floors of secondary containment structures for bulk liquid pesticides must</p>	<p>Verify that the walls and floor are designed according to good engineering practices.</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>meet specific requirements (8 CCR 1206-1, Sections 13.4(c), 13.4(e) through 13.4(i), 13.4(l), and 13.4(m)) [Revised March 2007; Citation Revised March 2009].</p>	<p>Verify that the walls and floor:</p> <ul style="list-style-type: none"> - are constructed of materials that are compatible with the pesticide or resist corrosion due to exposure to the pesticide - designed according to good engineering practices - are maintained as impervious to liquids for the life of the structure - do not contain an outlet or gravity drain - have no piping installed through them. <p>Verify that the secondary containment floor:</p> <ul style="list-style-type: none"> - supports the gravity load of a full tank - is designed to drain liquids to a sump. <p>Verify that the secondary containment walls withstand static and hydraulic loads from the equilibrium liquid level.</p> <p>Verify that walls adjacent to tanks withstand dynamic hydraulic loads from liquid discharged from a ruptured tank.</p>
<p>PM.60.19.CO. Sumps used in secondary containment for bulk liquid pesticides must meet specific requirements (8 CCR 1206-1, Sections 13.4(j) and 13.4(k)) [Citation Revised March 2009].</p>	<p>Verify that the sump is constructed of materials that are watertight and resistant to corrosion from pesticides.</p> <p>Verify that the sump is drained only by a manually activated pump.</p> <p>(NOTE: Automatic pumps may be used during the inactive season provided that all tanks in the secondary containment structure are empty.)</p>
<p>PM.60.20.CO. Prefabricated structures used for secondary containment for bulk liquid pesticides must meet specific requirements (8 CCR 1206-1, Section 13.4(s)) [Citation Revised March 2009].</p>	<p>Verify that the prefabricated secondary containment structure:</p> <ul style="list-style-type: none"> - is composed of a rigid prefabricated basin constructed of steel, reinforced concrete, or synthetic materials that are resistant to corrosion, puncture, and cracking - is designed and installed to withstand all foreseeable loading conditions, including the tank load has a written conformation of compatibility and estimate of the life expectancy from the basin manufacturer.
<p>PM.60.21.CO. Storage of dry bulk pesticides must meet certain requirements (8 CCR 1206-1, Sections 14.1 and 14.3) [Citation Revised March</p>	<p>Verify that dry bulk pesticide is stored inside a sound structure that prevents contact with precipitation.</p> <p>Verify that the floor of the dry bulk pesticide storage area prevents the downward movement of pesticide materials and the upward movement of moisture from the</p>

COMPLIANCE CATEGORY: PESTICIDE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>2009].</p> <p>PM.60.22.CO. Dry bulk pesticide spills must be cleaned up promptly (8 CCR 1206-1, Section 14.2(f)) [Citation Revised March 2009].</p> <p>PM.60.23.CO. Bulk pesticide storage facility must follow specific procedures when closing a bulk pesticide facility (8 CCR 1206-1, Section 15.3) [Revised March 2007; Citation Revised March 2009].</p> <p>PM.60.24.CO. Abandoned primary storage containers for bulk pesticides must be thoroughly cleaned (8 CCR 1206-1, Section 13.15) [Citation Revised March 2009].</p>	<p>floor.</p> <p>Verify that materials used in the walls and floors resist or is treated to resist corrosion due to exposure to the pesticide.</p> <p>Verify that the storage facility and area are maintained in a good state of repair.</p> <p>Verify that all spills of dry bulk pesticide are cleaned up promptly.</p> <p>Verify that the bulk pesticide storage facility notifies the Colorado Department of Agriculture within 7 days of the permanent discontinuation of operations at any bulk pesticide storage facility or mixing and loading area.</p> <p>Verify that the bulk pesticide storage facility takes the following actions when a bulk pesticide storage facility or mixing and loading area is closed or operations discontinued:</p> <ul style="list-style-type: none"> - removes all pesticides, rinsates, washwaters, and other materials containing pesticides from the facility site and utilizes them for their intended purpose or properly dispose of them according to state and federal law - thoroughly cleans all storage containers by triple rinsing. <p>Verify that abandoned primary storage containers used at the bulk pesticide storage facility are thoroughly cleaned.</p> <p>(NOTE: A primary storage container is considered abandoned if it has been out of use for more than 6 mo because of a weakness or leak, or has been out of service for any reason for more than 2 yr.)</p> <p>Verify that washwater containing pesticide is used for the original intended use of the product.</p>

Appendix 7-1

Categories of Pesticide Application

(8 CCR 1203-2, Sections 8.01, 9.01 and 10.01) [Revised May 1998]

Pesticide Applicator Categories
<p>Agricultural:</p> <ol style="list-style-type: none">1. Agricultural Insect Control2. Agricultural Plant Disease Control3. Agricultural Weed Control4. Seed Treatment5. Livestock Pest Control6. Forest Pest Control(NOTE: For applications in forested areas that come within maintained areas surrounding residential or commercial structures or within fifty (50) feet of a residential or commercial structure, an applicator must also hold the ornamental pest control category and comply with all of the posting and notification requirements. This additional certification in the ornamental pest control category does not apply to aerial applicators or ground applications made by federal, state, or local governments on property they own.)7. Rangeland Pest Control(NOTE: For applications performed in rangeland areas that come within maintained areas surrounding residential or commercial structures or within fifty (50) feet of a residential or commercial structure, an applicator must also hold the turf pest control category in accordance with part 9 of these rules and comply with all of the posting and notification requirements. This additional certification in the ornamental pest control category shall not apply to aerial applicators or ground applications made by federal, state, or local governments on property they own.)8. Aquatic Pest Control9. Industrial and Right-of-Way Weed Control10. Public Health Pest Control11. Research and Demonstration <p>Ornamental and Turf:</p> <ol style="list-style-type: none">1. Turf Pest Control2. Ornamental Pest Control <p>Structural:</p> <ol style="list-style-type: none">1. Wood Destroying Organism Pest Control2. Outdoor Vertebrate Pest Control3. Fumigation4. Residential/Commercial Pest Control5. Stored Commodities Treatment6. Wood Preservation and Wood Products Treatment7. Interior Plant Pest Control

SECTION 8

PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for POL Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

NOTE

Colorado's used oil regulations are not more stringent than the Federal; however, one requirement is included here that is not in the US TEAM Guide, and one checklist item is a state reiteration of the Federal prohibition on use of used oil for dust suppression.

Definitions

- *Used Oil* - any oil that has been refined from crude oil, or any synthetic oil, that has been used and as a result of such use is contaminated by physical or chemical impurities (6 CCR 1007-3, Section 279.1).
- *Used Oil Generator* - any person, by site, whose act or process produces used oil or whose act first causes used oil to become subject to regulation (6 CCR 1007-3, Section 279.1).

PETROLEUM, OIL, AND LUBRICANT (POL) MANAGEMENT GUIDANCE FOR COLORADO CHECKLIST USERS	
REFER TO CHECKLIST ITEMS:	
Missing Checklist Items	PO.2.1.CO.
Discharges/Spills	
(NOTE: The checklist item in this section was moved to sections ST.5.CO. and ST.30.CO. in the <i>Storage Tanks Management</i> chapter.)	
Used Oil	PO.60.1.CO. and PO.60.2.CO.
Used Oil collection Centers and Aggregation Points	PO.70.1.CO.
Dust Suppression With Used Oil	PO.90.1.CO

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PO.2</p> <p>MISSING CHECKLIST ITEMS</p> <p>PO.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PO.60.</p> <p>USED OIL</p> <p>PO.60.1.CO. Used oil must not be managed at surface impoundments or waste piles (6 CCR 1007-3, Section 279.12(a)).</p> <p>PO.60.2.CO. Disposal of residentially generated used oil must meet specific requirements (6 CCR 1007-2, Section 16.5) [Added March 2008]</p>	<p>Verify that used oil is not managed at a surface impoundment or waste pile.</p> <p>(NOTE: This requirement does not apply if the surface impoundment or waste pile is a regulated hazardous waste management facility.)</p> <p>(NOTE: This requirement is taken verbatim from the Federal requirements, but is not included in the US TEAM Guide.)</p> <p>Verify that there is no land disposal of residentially generated used oil.</p> <p>(NOTE: A person may dispose of an item or substance that contains de minimis quantities of used oil in a solid waste disposal site and facility if:</p> <ul style="list-style-type: none"> - all oil has been removed from the item or substance to the extent reasonably possible - no free-flowing oil remains in the item or substance. <p>Verify that a person disposes of used oil by delivery to one of the following entities:</p> <ul style="list-style-type: none"> - a retailer engaged in used oil collection or recycling - a wholesaler engaged in used oil collection or recycling - a collection facility engaged in used oil collection, or - a recycling facility engaged in used oil recycling. <p>Verify that a collection facility that accepts and stores residentially generated used oil manages the oil as follows:</p> <ul style="list-style-type: none"> - for transport to an appropriate recycling facility, the collection facility complies with requirements set forth in the Colorado Hazardous Waste Regulations, 6 CCR 1007-3, Part 279.30 for do-it-yourselfer (DIY) used oil collection centers (see PO.70.US. in the US TEAM Guide for requirements) - for the co-mingling of used oil residentially generated by DIY with commercially generated used oil, the collection facility complies with requirements set forth in the Colorado Hazardous Waste Regulations, 6 CCR 1007-3, Part 279.31 for used oil collection centers (see PO.70.US. in the US TEAM Guide for requirements).

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PO.70.</p> <p>USED OIL COLLECTION CENTERS AND AGGREGATION POINTS</p> <p>PO.70.1.CO. Used oil must not be managed at surface impoundments or waste piles (6 CCR 1007-3, Section 279.31(b)(3)) [Added March 2008].</p>	<p>Verify that used oil collection centers do not burn used oil that they have received from another used oil generator, other than a household do-it-yourselfer, in a used oil-fired space heater unless that oil has been determined to be on-specification.</p>

COMPLIANCE CATEGORY: PETROLEUM, OIL, AND LUBRICANT MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PO.90.</p> <p>DUST SUPPRESSION WITH USED OIL</p> <p>PO.90.1.CO. Used oil must not be used for dust suppression (6 CCR 1007-3, Section 279.12(b)).</p>	<p>Verify that used oil is not used for dust suppression.</p>

SECTION 9

SOLID WASTE MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Solid Waste Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Abandoned Facility* - a facility in operation after the initial enactment of the *Act* [in 1967] that has ceased operations without implementing a closure plan in accordance with the regulations that were in effect on the date of closure (Volume 6, Colorado Code of Regulations, 1007-2, Article 1, Section 2 (6 CCR 1007-2, Section 1.2)).
- *Act* - the *Solid Wastes Disposal Sites and Facilities Act*, Title 30, Article 20, Part 1, Colorado Revised Statutes (CRS), as amended (6 CCR 1007-2, Section 1.2).
- *Active Life* - the period of operation beginning with the initial receipt of solid waste, and ending at completion of closure activities in accordance with these regulations (6 CCR 1007-2, Section 1.2).
- *Active Operating Area* - an area that includes all areas of unloading, bailing, compacting, storing, and out loading (6 CCR 1007-2, Section 1.2).
- *Active Portion* - that part of a facility or unit that has received or is receiving wastes and that has not been closed in accordance with these regulations (6 CCR 1007-2, Section 1.2).
- *Adequate Cover* - (6 CCR 1007-2, Section 1.2):
 1. daily cover: at least 6 in. of earthen material or other suitable material placed over the exposed solid waste at the end of each operating day, or at such frequencies as needed to prevent or minimize nuisance conditions
 2. intermediate cover: at least 1 ft of earthen material or other suitable material placed over solid wastes in areas left temporarily unused for at least 1 mo, but not finally closed
 - 3 final cover: a design selected from the alternatives presented in Sub-Section 3.5.3 of 6 Colorado Code of Regulations (CCR) 1007-2.
- *Agricultural Wastes* - all solid wastes resulting from the raising of crops or animals, including animal manures, that are returned to the soils as fertilizer or soil conditioners, on land zoned agricultural by local requirements (6 CCR 1007-2, Section 1.2).
- *Air Pollutant* - any fume, smoke, particulate matter, vapor, or gas or any combination thereof that is emitted into or otherwise enters the atmosphere including, but not limited to, any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter, but does not include water vapor or steam condensate (6 CCR 1007-2, Section 1.2).
- *Air Pollution* - any concentration of one or more air pollutants in the ambient air that has caused, is causing, or if unabated may cause injury to human, plant or animal life, or injury to property, or which unreasonably interferes with the comfortable enjoyment of life or property (6 CCR 1007-2, Section 1.2).
- *Airport* - an airport open to members of the public without prior permission without restriction and within the physical capabilities of the facility (6 CCR 1007-2, Section 1.2).

- *Amended Application* - a document that proposes modifications to an existing site or facility that constitutes a substantial change in operations (6 CCR 1007-2, Section 1.2).
- *Application for a Certificate of Designation* - all documents, data, and drawings that are prepared in accordance with these regulations and all local requirements and submitted for review by an applicant to a governing body having jurisdiction. The application must contain the site location, type of facility, and engineering design and operations report that includes, but is not limited to, geological, hydrological, engineering, and operational data for the design, operation, closure, and postclosure of the facility (6 CCR 1007-2, Section 1.2).
- *Approved Site or Facility* - a site or facility for which a certificate of designation has been obtained, pursuant to the *Act* (6 CCR 1007-2, Section 1.2).
- *Aquifer* - any geologic formation, group of formations or portion of a formation or unit capable of yielding significant and usable quantities of groundwater to wells or springs (6 CCR 1007-2, Section 1.2).
- *Asbestos* - all the asbestiform varieties of serpentinite (chrysotile), riebeckite (crocidolite), cummingtonite-grunerite, anthophyllite, and actinolite-tremolite (6 CCR 1007-2, Section 1.2).
- *Ash* - the bottom ash, fly ash, or air pollution control residues and other residues of the combustion process from the operation of an incinerator or energy recovery facility, including the combustion of any municipal, commercial or industrial solid waste (6 CCR 1007-2, Section 1.2).
- *Autoclave* - a strong, pressurized, steam heated vessel used for sterilization. When used as a verb the term means the process of sterilization accomplished through the use of such a vessel (6 CCR 1007-2, Section 1.2).
- *Barrier Layer* - a continuous layer of material designed and constructed to restrict horizontal and/or vertical migration of leachate from the facility and may contain both manufactured and natural materials. The term is also used in cap construction to prevent fluids from migrating vertically through the cap (6 CCR 1007-2, Section 1.2).
- *Base Flood* - a flood that has a one percent chance of recurring in any yr, or a flood of a magnitude equaled or exceeded once in 100 yr, on the average over a significantly long period (6 CCR 1007-2, Section 1.2).
- *Biohazardous Wastes* - all wastes that would otherwise be an infectious wastes but are contaminated with a radioactive or listed hazardous waste (6 CCR 1007-2, Section 1.2).
- *Biosolids* - the accumulated residual product resulting from a domestic wastewater treatment works. Biosolids does not include grit or screenings from a wastewater treatment works, commercial or industrial sludges (regardless of whether the sludges are combined with domestic sewage), sludge generated during treatment of drinking water, or domestic or industrial septage (6 CCR 1007-2 Section 1.2) [Added March 2004].
- *Bird Hazard* - an increase in the likelihood of bird/aircraft collisions that may cause damage to the aircraft or injuries to its occupants (6 CCR 1007-2, Section 1.2).
- *Certificate of Designation* - a document issued upon Departmental approval by the governing body having jurisdiction to a person authorizing their operation of a facility for solid waste disposal, pursuant to the *Act* (6 CCR 1007-2, Section 1.2).
- *Class I Impoundment* - an impoundment is in Class I (no seepage allowed beyond liner) if it is located in a recharge area for an underground source of drinking water or over an unconfined aquifer; and seepage of waste or constituents from the impoundment would impair existing or future use of groundwater if allowed to reach that groundwater (6 CCR 1007-2, Sect. 9.2.2).

- *Class II Impoundment* - an impoundment is in Class II (controlled seepage) if it is located in a recharge area for an underground source of drinking water or over any unconfined aquifer, or in an area where no saturated zone exists between the surface and bedrock but the Class III criteria are not met; and seepage of waste or constituents from the impoundment would impair existing or future use of groundwater, if constructed without a liner (6 CCR 1007-2, Sect. 9.2.3).
- *Class III Impoundment* - an impoundment is in Class III (unrestricted seepage) if it is located outside a recharge area for an underground source of drinking water or in an area where no saturated zone exists between the surface and continuous strata of competent bedrock with an in-situ permeability of 1×10^{-6} cm/s or less and minimum thickness of 50 ft; or is located above an aquifer where impairment of existing or future use of groundwater will not occur due to unrestricted seepage of the waste or constituents intended for storage or disposal in the impoundment (6 CCR 1007-2, Sect. 9.2.4).
- *Closed Facility* - a solid waste site or facility that has been closed in accordance with provisions of the Federal regulations pursuant to Subtitle D of the *Act* [RCRA] as published in 40 Code of Federal Regulations (CFR) 258.60 or in the manner specified in the approved certificate of designation application at the time of approval of the site or facility, or in a closure plan that has been approved by the Department or prior to the enactment of the *Act* (6 CCR 1007-2, Section 1.2).
- *Collect Water Volume* - to provide storage in channels or basins to allow for controlled discharge (6 CCR 1007-2, Section 1.2).
- *Collection Facility* - as used in Section 16 of these Regulations means any facility that accepts, aggregates and stores used oil, used lead-acid batteries or waste tires generated elsewhere for transport to a location described in Sections 16.4, 16.5 or 16.6 of these Regulations (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Commercial Wastes* - all solid wastes generated by stores, hotels, markets, offices, restaurants, and other nonmanufacturing activities, excluding community and industrial wastes (6 CCR 1007-2, Section 1.2).
- *Community Wastes* - all solid wastes generated by the noncommercial and nonindustrial activities of private individuals of a community, including solid wastes from streets, sidewalks, and alleys (6 CCR 1007-2, Section 1.2).
- *Composite Liner* - a liner system consisting of two components: the upper component consists of a flexible membrane liner and the lower component consists of a compacted soil layer. The flexible membrane liner component must be installed in direct and uniform contact with the compacted soil component (6 CCR 1007-2, Section 1.2).
- *Compost* - the material or product that is developed under controlled conditions and that results from biological degradation processes by which organic wastes decompose (6 CCR 1007-2, Section 1.2).
- *Compost Facility* - a site where compost is produced (6 CCR 1007-2, Section 1.2).
- *Compost Feedstock Types* - the categories described below are not intended to be all-inclusive, but rather are set forth as guidance to assist owners and operators in determining the appropriate classification of a proposed or existing composting facility. The Department recognizes that case-by-case determinations may be necessary concerning selection of an appropriate category for a particular feedstock. Accordingly, the Department may require that analytical and/or process information be supplied by the owner or operator to assist in making such determinations (6 CCR 1007-2, Part 1.B, Section 14.1.4) [Added March 2001; Revised March 2009]:
 - Type 1: Agricultural crop residues, manure, untreated wood wastes, source separated yard, paper and green wastes.
 - Type 2: Animal material and source separated food wastes.
 - Type 3: Biosolids, solid waste, processed solid waste and sludges.

- *Construction and Demolition Debris Facility* - a discrete area of land or an excavation that is designed for the final disposal of solid wastes that result from the construction or demolition of a building or structure, such as lumber, bricks, concrete, sheetrock, and other similar materials (6 CCR 1007-2, Section 1.2).
- *Consumer Product* - as used in Section 16 of these Regulations means any device that is primarily intended for personal or household use and is typically sold, distributed, or made available to the general population through retail or mail-order distribution. Such term does not include vehicles, motorcycles, wheelchairs, boats, or other forms of motive power. The term does include, but is not limited to, computers, games, telephones, radios, and similar electronic devices (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Custom Mill* - an operation or facility for the extraction of metals or materials from ores that receives its raw materials from one or more offsite sources (6 CCR 1007-2, Section 1.2).
- *Department* - the Colorado Department of Health (6 CCR 1007-2, Section 1.2).
- *Dewatered* - material that has been subjected to a process that will remove free moisture from the material as determined by the free water test (6 CCR 1007-2, Section 1.2).
- *Disease Vector* - any animal, bacterium, or virus capable of transmitting disease, illness, or harm to humans (6 CCR 1007-2, Section 1.2).
- *Emission* - the discharge or release into the atmosphere of one or more air pollutants (6 CCR 1007-2, Section 1.2).
- *Engineering Design* - the analysis and design work prepared for construction, operation, and closure of a solid waste disposal site or facility that may contain a preliminary report of design specifications, maps and plans drawn to a convenient scale, provides site or facility operation plans and site or facility closure plans, and contains all information and data otherwise specified by these regulations (6 CCR 1007-2, Section 1.2).
- *Excluded Scrap Metal* - processed scrap metal, unprocessed home scrap metal, and unprocessed prompt scrap metal (6 CCR 1007-2, Section 1.2) [Added August 1999].
- *Exemption* - the dispensation or partial dispensation of some permitting obligation as specifically provided in the CRS 30-20-102 (6 CCR 1007-2, Section 1.2).
- *Existing Landfill* - any landfill that has received solid waste as of the effective date of these regulations (6 CCR 1007-2, Section 1.2).
- *Explosive Gas* - methane or other combustible gases, generated by decomposition in a facility for solid wastes disposal (6 CCR 1007-2, Section 1.2).
- *Facility or Solid Waste Disposal Facility* - all contiguous land and structures, other appurtenances, and improvements on the land used for solid waste disposal (6 CCR 1007-2, Section 1.2).
- *Facility Structures* - any building, structure, or utility service trench, temporary or permanent, at a facility for solid wastes disposal (6 CCR 1007-2, Section 1.2).
- *Fault* - a fracture or zone of fractures in any material along which strata on one side have been displaced with respect to strata on the other side (6 CCR 1007-2, Section 1.2).
- *Fault Displacement* - the relative movement of any two sides of a fault measured in any direction (6 CCR 1007-2, Section 1.2).

- *Favorable Geologic Conditions* - site selection emphasizing tight soils, distance from groundwater, deep aquifers, and similar natural features (6 CCR 1007-2, Section 1.2).
- *Floodplain* - lowland areas adjacent to inland surface waters that are inundated by the base flood (6 CCR 1007-2, Section 1.2).
- *Gas Condensate* - the liquid generated as a result of gas recovery processes (6 CCR 1007-2, Section 1.2).
- *Governing Body Having Jurisdiction* - the board of county commissioners if the site or facility is located in any unincorporated portion of a county or the governing body of the appropriate municipality if the site or facility is located within an incorporated area (6 CCR 1007-2, Section 1.2).
- *Groundwater* - any water below the land surface in a zone of saturation (6 CCR 1007-2, Section 1.2).
- *Hazardous Constituent* - the list of chemical parameters described in Appendix IB and II of these regulations and 6 CCR 1007-3, Part 261.3 Appendix VIII (6 CCR 1007-2, Section 1.2).
- *Hazardous Waste* - means those substances and materials defined or classified as such by the Hazardous Waste Commission pursuant to 25-15-302, CRS, as amended (6 CCR 1007-2, Section 1.2).
- *Health Departments* - the Colorado Department of Health and a local health department if such entity exists (6 CCR 1007-2, Section 1.2).
- *High Wind Warning* - that sustained winds of 40 mi/h or greater, or gust of 55 mi/h or greater, are expected to persist for 1 h or longer, as defined by the National Weather Service (6 CCR 1007-2, Section 1.2).
- *Holocene* - the most recent epoch of the quaternary period, extending from the end of the Pleistocene epoch to the present (6 CCR 1007-2, Section 1.2).
- *Home Scrap Metal* - scrap metal generated by steel mills, foundries, and refineries, including, but not limited to, turnings, cuttings, punchings, and borings (6 CCR 1007-2, Section 1.2) [Added August 1999].
- *Household Waste* - any solid waste generated by households, including single and multiple residences and motels, bunkhouses, ranger stations, crew quarters, campgrounds, picnic grounds, and day-use recreation areas (6 CCR 1007-2, Section 1.2).
- *Incineration* - the combustion of solid wastes in such a way as to:
 1. control the air mixture to maintain adequate temperature for efficient combustion,
 2. contain the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion
 3. control the emission of combustion byproducts consistent with the standards, rules, and regulations promulgated by the Department's Air Quality Control Commission (6 CCR 1007-2, Section 1.2).
- *Incompatible Wastes* - wastes that, when mixed, produce heat, pressure, fire, explosion, violent reaction, toxic mist, fumes or gases, or flammable fumes or gases (6 CCR 1007-2, Section 1.2).
- *Incorporated Into the Soil* - the insertion of solid waste beneath the surface of the soil or the mixing of solid wastes with the surface soil (6 CCR 1007-2, Section 1.2).
- *Industrial Wastes* - all solid wastes, including mill tailings and mining wastes, resulting from the manufacture of products or goods by mechanical or chemical processes that are not a hazardous waste regulated under 6 CCR 1007-3. Such waste may include, but is not limited to, waste resulting from the following manufacturing processes: electric power generation; fertilizer/agricultural chemicals; food and related products/byproducts; inorganic chemicals; iron and steel manufacturing; leather and leather products; nonferrous metals

manufacturing/foundries; organic chemicals; plastics and resins manufacturing; pulp and paper industry; rubber and miscellaneous plastic products; stone, glass, clay and concrete products; textile manufacturing; transportation equipment; and water treatment.(NOTE: This term does not include oil and gas wastes regulated by the Colorado Oil and Gas Conservation Commission.) (6 CCR 1007-2, Section 1.2).

- *Inert Material* - non-watersoluble and non-putrescible solids together with such minor amounts and types of other materials as will not significantly affect the inert nature of such solids. The term includes, but is not limited to, earth, sand, gravel rock, concrete which has been in a hardened state for at least sixty days, masonry, asphalt paving fragments, and based on a site-specific seismic risk assessment (6 CCR 1007-2, Section 1.2) [Revised August 1999].
- *Land Disposal* - as used in Section 16 of these Regulations means placing, discarding, or otherwise disposing of residentially generated solid wastes (6 CCR 1007-2, Section 1.2) [Added March 2008]:
 - (a) In any solid wastes disposal site and facility, transfer station, or treatment, storage or disposal facility operated by the state, a local government, or a private entity;
 - (b) In sewers, drainage systems, septic tanks, surface or ground waters, watercourses, or any body of water; or
 - (c) On the ground.
- *Mill Tailings* - an industrial solid waste generated by mechanical or chemical processing of minerals for subsequent conversion into usable forms as a metal, a metallic compound, an energy source, or raw material for manufacture (6 CCR 1007-2, Section 1.2).
- *Mining Waste* - overburden to be discarded and other industrial wastes directly related to the preparation, development and operation of mineral extraction facilities. Mining waste includes only waste material directly connected with the cleaning and preparation of substances mined by an operation and mined at the mine site where they are generated (6 CCR 1007-2, Section 1.2).
- *Monofill* - a landfill or section of landfill for which only one type of waste may be accepted for disposal (6 CCR 1007-2, Section 1.2).
- *Municipal Solid Waste* - solid waste from community, commercial, and industrial sources that does not contain hazardous wastes as defined in Section 25-15-101(9) of the *Colorado Hazardous Waste Act* unless otherwise regulated by the Department (6 CCR 1007-2, Section 1.2).
- *Municipal Solid Waste Incinerator Ash* - bottom ash, fly ash, or air pollution control residues and other residuals of the combustion process from the operation of incinerator or energy recovery facilities managing municipal solid waste (6 CCR 1007-2, Section 1.2).
- *Municipal Solid Waste Landfill (MSWLF)* - a sanitary landfill where one of the main waste streams accepted is municipal waste (6 CCR 1007-2, Section 1.2).
- *Municipality* - a home rule or statutory city, town, or city and county, or territorial charter city (6 CCR 1007-2, Section 1.2).
- *Noise Pollution* - sound levels radiating from the site boundary at a distance of 25 ft or more therefrom, in excess of standards established in Sections 101 and 103 of the *Colorado Noise Abatement Act*, Title 25, Article 12, Part 1, CRS 1973, as amended (6 CCR 1007-2, Section 1.2).
- *Noncommercial Burning of Trash* - the combustion of solid wastes in accordance with subsections (2) and (3) Section 110 of the *Act* (6 CCR 1007-2, Section 1.2).

- *Nuisance Conditions* - those that may result from explosive gas, bird hazards, disease vectors, odors, windblown solid wastes or cover materials, open burning, water pollution, air pollution, noise pollution, and traffic congestion (6 CCR 1007-2, Section 1.2).
- *Open Burning* - the uncontrolled or unconfined combustion of solid wastes at a facility for solid waste disposal without the following:
 1. control of combustion air to maintain adequate temperature for efficient combustion
 2. containment of the combustion reaction in an enclosed device to provide sufficient residence time and mixing for complete combustion
 3. control of the emission of the combustion products (6 CCR 1007-2, Section 1.2).
- *Operator* - the person(s) responsible for the overall operation of a facility or part of a facility (6 CCR 1007-2, Section 1.2).
- *Owner* - the person(s) who owns a facility or part of a facility (6 CCR 1007-2, Section 1.2).
- *Passenger Tire Equivalents* - a conversion measurement that is used to estimate waste motor vehicle tire weights and volume amounts defined as an average sized whole passenger/light truck tire weighing twenty (20) pounds and occupying a volume of four (4) cubic feet (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Person* - an individual, partnership, private or municipal corporation, firm, board of metropolitan district or sanitation district, or other association of persons (6 CCR 1007-2, Section 1.2) [Revised August 1999].
- *Point of Compliance* - as referred to in 6 CFR 1007-2, Sections 2.2, 3.2.5, and 3.5, the point of compliance is located on land owned by the owner of the site and facility and means either:
 1. for a landfill, a vertical surface that is not more than 150 m from the waste management unit boundary as described in the engineering design and operations report
 2. for other sites and facilities, a vertical surface that is at the perimeter of the solid waste disposal site and facility boundary (6 CCR 1007-2, Section 1.2).
- *Poor Foundation Conditions* - those areas where geological features exist that indicate that a natural or man-induced event may result in inadequate foundation support for the structural components of the facility (6 CCR 1007-2, Section 1.2).
- *Practicable Solid Waste Management Alternative* - a materials or resource recovery facility, transfer station, or other alternative to the existing landfill that the owner or operator has determined will, if utilized as an alternate disposal site to solid waste management alternative:
 1. increase the customer's cost for solid waste management services by less than 100 percent
 2. not result in a solid waste management cost to the local government owner or operator that exceeds one percent of that local government's total annual budget (6 CCR 1007-2, Section 1.2).
- *Preliminary Report* - an initial report prepared by qualified professionals, including geologists, land surveyors, groundwater specialists, engineers, and others that contains technical information regarding geologic, engineering, and hydrologic data and site information, and other data that the Department deems necessary (6 CCR 1007-2, Section 1.2).
- *Processed Scrap Metal* - scrap metal that has been manually or physically altered to separate it into distinct materials to enhance economic value or to improve the handling of materials. Processed scrap metal includes, but is not limited to (6 CCR 1007-2, Section 1.2) [Added August 1999]:
 1. scrap metal that has been baled, shredded, sheared, chopped, crushed, flattened, cut, melted, or separated by metal type; and
 2. fines, drosses, and related materials that have been agglomerated.

- *Processing* - performing a type of solid waste disposal, including but not limited to sanitary landfilling, incineration, and composting (6 CCR 1007-2, Section 1.2).
- *Prompt Scrap Metal* - scrap metal generated by the metal working or fabrication industries, including, but not limited to, turnings, cuttings, punchings, and borings. Includes industrial metal scrap and new scrap metal (6 CCR 1007-2, Section 1.2) [Added August 1999].
- *Putrescible Wastes* - those solid wastes that contain organic matter capable of being decomposed by microorganisms, and of such a character and proportion as to be capable of attracting or providing food for birds or disease vectors (6 CCR 1007-2, Section 1.2).
- *Qualified Groundwater Scientist* - a scientist or engineer who has received a baccalaureate or post-graduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology, and related fields as may be demonstrated by state registration, professional certifications, professional experience, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action (6 CCR 1007-2, Section 1.2).
- *Recyclable Materials* - any type of discarded or waste material that is not regulated under Section 25-8-205(1)(e), C.R.S., and can be reused, remanufactured, reclaimed, or recycled but not including recycled auto parts or excluded scrap metal that is being recycled, or scrap that is composed of worn out metal or metal product that has outlived its original use, commonly referred to as obsolete scrap (6 CCR 1007-2, Section 1.2) [Revised August 1999].
- *Recycling Facility* - a separate facility, or a part of a solid waste disposal facility, where recycling operations are conducted (6 CCR 1007-2, Section 1.2) [Added March 2008].
- *Recycling Operation* - a separate facility, or a part of a solid waste disposal facility at which recyclable materials may be separated from other materials for further processing or marketing (6 CCR 1007-2, Section 1.2).
- *Residentially Generated* - as used in Section 16 of these Regulations means used lead-acid batteries, used oil, and waste tires generated by a person or by removal of said items from a personal vehicle not used primarily for a commercial or business purpose (6 CCR 1007-2, Section 1.2) [Added March 2008].
- *Residual Sludge* - solids, semisolids or liquids remaining in a waste impoundment after final evaporative or other treatment or storage of the waste is completed, or which may be dredged out during the active life (6 CCR 1007-2, Section 1.2).
- *Runoff* - any precipitation or surface water that has not contacted solid waste material and that drains over land from any part of a facility (6 CCR 1007-2, Section 1.2).
- *Run-On* - any precipitation or surface water that drains over land onto any part of a facility (6 CCR 1007-2, Section 1.2).
- *Sanitary Landfill* - a discrete area of land or an excavation for which the final disposal of solid waste employs a method to obtain the most dense volume practicable of the waste and covering with earth or other suitable material. A sanitary landfill may receive household waste, community waste, municipal solid waste, commercial waste, and industrial waste (6 CCR 1007-2, Section 1.2).
- *Saturated Zone* - that part of the earth's crust in which all voids are filled with water (6 CCR 1007-2, Section 1.2).
- *Scrap Tire* - a tire that is no longer used for its original purpose (6 CCR 1007-2, Section 1.2).

- *Scrap Tire Recycling* - the sale of scrap tires in the used-tire market, the sale of tire casings or carcasses for retreading purposes, or the extraction of useful materials or energy from the tires through thermal, chemical, or physical processing (6 CCR 1007-2, Section 1.2).
- *Scrap Tire Recycling Facility* - a facility at which 10,000 or more scrap tires are held in inventory, for the purpose of recycling (6 CCR 1007-2, Section 1.2).
- *Seismic Impact Zone* - an area with a 10 percent or greater probability that the maximum horizontal acceleration in lithified earth material, expressed as a percentage of the earth's gravitational pull, will exceed 0.10 G in 250 yr (6 CCR 1007-2, Section 1.2).
- *Significant* - in the context of differentiating between liquid or semisolid waste streams, a difference of one order of magnitude in the concentration of any constituents (6 CCR 1007-2, Section 1.2) [Revised August 1999].
- *Site* - a location for a facility for solid waste disposal, chosen based upon reasonably available geologic, hydrologic, and operational considerations (6 CCR 1007-2, Section 1.2).
- *Site Boundary* - the outermost perimeter of a solid waste disposal site and facility, as designated pursuant to the Act (6 CCR 1007-2, Section 1.2).
- *Sludge* - any solid or semisolid waste generated by municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility, that has been treated to obtain pathogen destruction, odor control, or putrescibility control (6 CCR 1007-2, Section 1.2).
- *Solid Waste* - any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility, and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial or commercial operations or from community activities. It does not include any solid or dissolved materials in domestic sewage, or agricultural wastes, or solid or dissolved materials in irrigation return flows, or industrial discharges that are point sources subject to permits under the provisions of the *Colorado Water Quality Control Act*, Title 25, Article 8, CRS 1973, or materials handled at facilities licensed pursuant to the provisions on *Radiation Control Act* in Title 25, Article 11, CRS 1973 (6 CCR 1007-2, Section 1.2).
- *Solid Waste Disposal* - the storage, treatment, utilization, processing, or final disposal of solid wastes (6 CCR 1007-2, Section 1.2).
- *Solid Waste Disposal Sites and Facility* - the location and/or facility at which the deposit and final treatment of solid wastes occur (6 CCR 1007-2, Section 1.2).
- *Solid Waste Incinerator Ash* - the bottom ash, fly ash or air pollution control residues and other residuals of the combustion process from the operation of incinerator or energy recovery facilities managing solid waste (6 CCR 1007-2, Section 1.2).
- *Structural Component* - liner, leachate collection system, final cover, run-on/runoff control system, or any other component used in the construction and operation of the facility and are necessary for protection of human health and the environment (6 CCR 1007-2, Section 1.2).
- *Surface Water* - water that flows on the land surface, or is tributary to such water (6 CCR 1007-2, Section 1.2).
- *Tire* - a pneumatic rubber covering designed to encircle the wheel of a motor vehicle, as such term is defined in Section 42-1-102 (58) C.R.S., in which a person or property is or may be transported or drawn upon a highway (6 CCR 1007-2, Section 1.2) [Added March 2007].

- *Transfer Station* - a facility at which refuse awaiting transportation to a disposal site is transferred from one type of containerized collection receptacle and placed into another or is processed for compaction (6 CCR 1007-2, Section 1.2).
- *Transportation* - transport of persons or property by motor vehicle, bus, truck, railroad, light rail, mass transit, airplane, bicycle, or any other form of transport. Transportation includes pedestrian transportation. (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Treatment* - performing a type of solid waste disposal, including but not limited to shredding, baling, liquid evaporation, and nonbeneficial sludge landspreading (6 CCR 1007-2, Section 1.2).
- *Underground Source of Drinking Water* - an aquifer or its portion that:
 1. supplies any public water system, or contains a sufficient quantity of groundwater to supply a public water system, and
 2. currently supplies drinking water for human consumption, or contains fewer than 10,000 mg/L total dissolved solids (6 CCR 1007-2, Section 1.2).
- *Unstable Area* - a location that is susceptible to natural or man-induced events or forces capable of impairing the integrity of some or all of the landfill structural components that are necessary for the prevention of releases from a landfill, including poor foundation conditions, areas susceptible to mass movements, and Karst terrains (6 CCR 1007-2, Section 1.2).
- *Uppermost Aquifer* - the aquifer nearest the ground surface as well as other aquifers that are hydraulically connected with this aquifer within the facility boundary or adjacent to the facility boundary (6 CCR 1007-2, Section 1.2).
- *Used Lead-Acid Battery* - as used in Section 16 of these Regulations means any lead-acid battery that is no longer functional or no longer used for its primary purpose (6 CCR 1007-2, Section 1.2) [Added March 2008].
- *Used Oil* - as used in Section 16 of these Regulations means any residentially generated motor oil, refined from crude oil or a synthetic oil, that has been used and as a result of that use is contaminated by physical or chemical impurities (6 CCR 1007-2, Section 1.2) [Added March 2008].
- *Visible Emissions* - emissions that contain asbestos fibers, are visually detectable without the aid of instruments and arise from any portion of an asbestos waste disposal area including, but not limited to, any soils, bags, and containers (6 CCR 1007-2, Section 1.2).
- *Waiver* - a formalized process whereby an applicant may request to be excused from specific portions of these regulations. In general, a defensible technical argument must be presented and verified before a waiver may be granted (6 CCR 1007-2, Section 1.2).
- *Washout* - the carrying away of solid waste by waters of the base flood (6 CCR 1007-2, Section 1.2).
- *Waste Hauler* - any individual or any employee or agent of a partnership, private, county, or municipal corporation, firm, board of a metropolitan district, or other association of persons that haul waste under contract, agreement, or as otherwise provided by law, to solid wastes disposal sites and facilities (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Impoundment* - a facility or part of a facility that is a natural topographic depression, excavation, pit, pond, lagoon, trench, or diked area, may be lined with earthen or synthetic material, and is designed for storage, treatment, or final disposal of solid waste. Examples of impoundments are holding, storage, settling, and aeration pits, ponds, and lagoons (6 CCR 1007-2, Section 1.2).

- *Waste Management Unit Boundary* - a vertical surface located at the hydraulically down-gradient limit of the area to be filled. This vertical surface extends down into the uppermost aquifer (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Motor Vehicle Tire* - a tire used for a motor vehicle, as such term is defined in Section 42-1-102 (58), C.R.S. (except that motor vehicle shall not include motorcycles), which is no longer suitable for its original intended purpose because of wear, damage, or defect (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Motor Vehicle Tire Hauler* - a person who commercially transports waste motor vehicle tires for compensation (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Motor Vehicle Tire Monofill* - any duly licensed and permitted solid wastes disposal site and facility or section of solid wastes disposal site and facility at which waste motor vehicle tires are accepted (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Motor Vehicle Tire Recycling Facility* - a commercial waste motor vehicle tire management facility that is regulated under the Recycling Section 8 of these Regulations (6 CCR 1007-2) (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Motor Vehicle Tire Storage Site* - a commercial waste motor vehicle tire management facility that is regulated under the Scrap Tire Facilities Section 10 of these Regulations (6 CCR 1007-2) (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Pile or Pile* - any noncontainerized accumulation of solid, non-flowing waste that is used for treatment or storage or processing (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Waste Stream* - a relatively uniform solid waste, produced by the same or a similar process or generator over time. Different waste streams are distinguished by significantly larger or smaller concentrations of one or more constituents as determined by standard test methods or inspection (6 CCR 1007-2, Section 1.2).
- *WasteTire* - a light-duty whole tire used on a passenger-type vehicle or truck that is no longer suitable for its original intended purpose because of wear, damage, or defect. "Waste tire" does not include waste tires from any device moved exclusively by human power (6 CCR 1007-2, Section 1.2) [Added March 2007].
- *Water Pollution* - the manmade or man-induced alteration of the background physical, chemical, biological, or radiological integrity of groundwater or surface water (6 CCR 1007-2, Section 1.2).
- *Water Treatment Plant Sludge Disposal* - the final disposal of the accumulated solids from the processing of raw water with aluminum or iron salts in a treatment plant of a municipality or industry (6 CCR 1007-2, Section 1.2).
- *Wetlands* - those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas (6 CCR 1007-2, Section 1.2).
- *Working Face* - that portion of a facility for solid wastes disposal where solid wastes are actively unloaded, placed, compacted and covered, at any time or operation (6 CCR 1007-2, Section 1.2).
- *Yards Per Day* - the cubic yardage of material a facility receives at the gate, for each 24-h period (6 CCR 1007-2, Section 1.2).

**SOLID WASTE MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

Missing Checklist Items	SO.2.1.CO.
State Specific	
General	SO.5.1.CO. and SO.5.2.CO.
Permits, Notifications, Exemptions	SO.6.1.CO. and SO.6.2.CO.
Design	SO.7.1.CO.
Operations	SO.8.1.CO. through SO.8.7.CO.
Specific Wastes	SO.9.1.CO. through SO.9.6.CO.
Transfer Facilities	SO.15.1.CO. through SO.15.13.CO.
Non-MSWLF Sites And Facilities	SO.30.1.CO.
Municipal Solid Waste Landfills	
Location Restrictions	SO.55.1.CO. through SO.55.6.CO.
Design Criteria	SO.60.1.CO. through SO.60.6.CO.
Operating Criteria	SO.65.1.CO. through SO.65.5.CO.
Closure Criteria	SO.75.1.CO. through SO.75.4.CO.
Postclosure Care Requirements	SO.80.1.CO. through SO.80.3.CO.
Documentation	SO.85.1.CO. and SO.85.2.CO.
Ash Handling and Disposal	SO.92.1.CO. through SO.92.3.CO.
Resource Recovery Facilities	SO.95.1.CO. through SO.95.4.CO.
Medical Waste	
Generators	SO.105.1.CO.
Treatment/Disposal	SO.120.1.CO. through SO.120.6.CO.
Documentation	SO.125.1.CO.
Landfills	SO.135.1.CO.
Incinerators	SO.145.1.CO. through SO.145.5.CO.
Surface Impoundments	SO.155.1.CO. through SO.155.7.CO.
Waste Tire Facilities	SO.160.1.CO. through SO.160.6.CO.
Yard Waste/Composting	SO.165.1.CO. through SO.165.13.CO.
Other Disposal Units	[Moved]
Other Treatment Units	SO.175.1.CO. through SO.175.7.CO.
Closure of Solid Waste Facilities	SO.180.1.CO.

**SOLID WASTE MANAGEMENT
GUIDANCE FOR COLORADO APPENDIX USERS**

REFER TO APPENDIX NUMBERS:

REFER TO APPENDIX TITLES:

9-1

Maximum Constituent Concentration For Compost Sold or
Distributed For Offsite Use

9-2

Composting Facility Classifications

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>SO.2.</p> <p>MISSING CHECKLIST ITEMS</p> <p>SO.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>STATE SPECIFIC</p> <p>SO.5. General</p> <p>SO.5.1.CO. Solid waste disposal facilities must comply with certain laws, rules, regulations, and standards (6 CCR 1007-2, Sections 2.1.1 and 2.1.15).</p> <p>SO.5.2.CO. Solid waste disposal facilities must not contribute to water quality degradation (6 CCR 1007-2, Sections 2.1.4, 2.1.5, and 2.1.17).</p>	<p>Verify that solid waste disposal facilities comply with the health laws, standards, rules, and regulations of the Department, the Water Quality Control Commission, the Air Quality Control Commission, and all applicable local laws and ordinances.</p> <p>Verify that solid waste disposal facilities comply with the ground water protection standards at the relevant point of compliance.</p> <p>Verify that wastes are not placed below or into surface or ground water.</p> <p>Verify that water is not polluted up to or beyond the point of compliance.</p> <p>Verify that significant aquifer recharge areas are not adversely impacted by solid waste disposal.</p>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>STATE SPECIFIC</p> <p>SO.6. Permits/ Notifications/Exemptions</p> <p>SO.6.1.CO. Solid waste disposal facilities must have a certificate of designation (6 CCR 1007-2, Sections 1.3.3, and 1.4) [Citation Revised March 2004].</p> <p>SO.6.2.CO. Solid waste disposal facilities requiring certification of designation must meet waste characterization and disposal plan requirements (6 CCR 1007-2, Section 2.1.2 (C) through (E)) [Revised March 2002].</p>	<p>Verify that the solid waste disposal facility has obtained certification to process, treat, and/or dispose of solid waste.</p> <p>(NOTE: The following are exempt from certification:</p> <ul style="list-style-type: none"> - individuals disposing of their own solid wastes on their own property, provided that the Department has determined that the disposal operation will comply with applicable regulations - facilities operating under a mining permit and disposing of mining or other wastes generated by such operations within the permitted area of the operation - facilities operated to process, reclaim, or recycle recyclable materials (however, an initial accumulation period must be established and documentation maintained that proves recyclable materials are being recycled at the site at a rate that approximately equals that rate at which they are being collected) - facilities where sludge is used beneficially as a fertilizer, soil conditioner, fuel or livestock feed, and is certified to have met the applicable regulations - manure used as a fertilizer or soil conditioner or composted on the site of generation with other compatible materials necessary for effective composting as part of standard agricultural practice - facilities for hazardous waste disposal that have been issued a certificate of designation - transfer stations that are not solid waste disposal sites or facilities.) <p>Verify that sites and facilities requiring a certificate of designation have an approved waste characterization and disposal plan outlining waste screening methodologies, appropriate waste handling procedures, and waste exclusion procedures.</p> <p>Verify that the waste characterization and disposal plan has been provided to the local governing body having jurisdiction.</p> <p>Verify that, where there is an approved plan, it is in use.</p>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
STATE SPECIFIC SO.7. Design SO.7.1.CO. Solid waste disposal facilities must have run-on and runoff control systems (6 CCR 1007-2, Section 2.1.6) [Revised March 2002].	<p>Verify that solid waste disposal facilities have a run-on control system that prevents flow onto the active facility during the peak discharge from a 25 yr, 24 h storm.</p> <p>Verify that solid waste disposal facilities have a runoff control system that collects the water volume resulting from a 25 yr, 24 h storm event and controls the water volume resulting from a 100 yr, 24 h storm event.</p>

COMPLIANCE CATEGORY: SOLID WASTE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
STATE SPECIFIC SO.8. Operations SO.8.1.CO. Solid waste disposal facilities must not create nuisance conditions or hazards to human health (6 CCR 1007-2, Sections 2.1.3, 2.1.7, 2.1.10, and 2.1.11).	<p>Verify that nuisance conditions do not exist at or beyond the solid waste disposal facility site boundary.</p> <p>Verify that all reasonable measures are employed to collect, properly contain, and dispose of scattered litter.</p> <p>(NOTE: Reasonable measures include but are not limited to frequent policing of the area and the use of wind screens where necessary.)</p> <p>Verify that solid waste disposal facilities are adequately fenced or secured to prevent waste material and debris from leaving the site.</p> <p>Verify that waste material and debris does not accumulate along the fence line.</p> <p>Verify that waste material and debris are collected regularly and placed into the fill.</p> <p>Verify that, to minimize windblown debris, operations cease during periods when high wind warnings are verified on-site.</p> <p>(NOTE: If the facility has no wind velocity measuring device, closure decisions will be based on readings obtained hourly by the facility operator from the nearest national weather service office or other location approved by the Department with concurrence from the local governing body having jurisdiction.)</p> <p>Verify that solid waste disposal facilities prevent ponding of water and wind erosion.</p> <p>Verify that the following do not constitute a hazard to human health:</p> <ul style="list-style-type: none"> - noise - dust - odors - attraction, breeding, and emergence of birds, insects, rodents and other vectors.
SO.8.2.CO. Solid waste disposal facilities must control public access and provide site security (6 CCR	<p>Verify that solid waste disposal facilities control public access, prevent unauthorized vehicular traffic, provide for site security both during and after hours, and prevent illegal dumping of wastes.</p>

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<p>1007-2, Section 2.1.8).</p> <p>SO.8.3.CO. Solid wastes deposited at the facility must not be burned except under specific conditions (6 CCR 1007-2, Section 2.1.9).</p> <p>SO.8.4.CO. Solid waste disposal facilities must meet certain groundwater monitoring requirements (6 CCR 1007-2, Section 2.2) [Citation Revised March 2004].</p> <p>SO.8.5.CO. Solid waste disposal facilities that might generate explosive gases must monitor for explosive gases (6 CCR 1007-2, Section 2.3).</p>	<p>Verify that, other than by incineration in accordance with a certificate of designation, solid wastes deposited at the facility are not burned.</p> <p>(NOTE: In extreme emergencies, the Department may authorize the supervised burning of large quantities of combustible materials, such as agricultural wastes, silvicultural wastes, land clearing debris, diseased trees, or debris from emergency cleanup operations.)</p> <p>(NOTE: Appendix B uses 40 CFR Part 258 (9 October 1991 edition) as a reference document.)</p> <p>Verify that the solid waste disposal facility has:</p> <ul style="list-style-type: none"> - a groundwater monitoring system in accordance with Appendix B, Section B2 - a detection monitoring system in accordance with Appendix B, Section B4. <p>Verify that groundwater is sampled and analyzed in accordance with Appendix B, Section B3.</p> <p>Verify that, if statistically significant increases over background are determined in groundwater analysis, assessment monitoring is implemented.</p> <p>Verify that, if statistically significant increases of constituents (see Appendix 9-4 and 9-5 in the U. S. TEAM Guide) are detected in groundwater analysis, an assessment of interim measures and corrective measures is implemented.</p> <p>Verify that selection of remedy and implementation of the corrective action program are implemented.</p> <p>Verify that the solid waste disposal facility has a routine monitoring program for explosive gases and that the type and frequency of monitoring is based on:</p> <ul style="list-style-type: none"> - soil conditions - hydrogeologic conditions surrounding the facility hydraulic conditions surrounding the facility - location of facility structures and property boundaries. <p>Verify that monitoring for explosive gases is performed at least quarterly.</p>

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<p>SO.8.6.CO. Solid waste disposal facilities must maintain accurate and up-to-date records (6 CCR 1007-2, Section 2.4).</p>	<p>Verify that explosive gas monitoring points are installed in accordance with applicable rules and regulations of the <i>Water Well and Pump Installation Contractor's Act</i>, Title 37, Article 91, Part 1, CRS as amended.</p> <p>Verify that the concentration of explosive gases does not exceed:</p> <ul style="list-style-type: none"> - 25 percent of the lower explosive limit (1 percent by volume in air for methane) within facility structures (excluding gas control or recovery systems) - 5 percent of the lower explosive limit by volume in air for methane at the site boundary. <p>Verify that all of the following actions are taken if explosive gas levels exceed the specified limits:</p> <ul style="list-style-type: none"> - the Department and the local governing body having jurisdiction are notified - all necessary steps to ensure protection of human health are taken immediately - the explosive gas levels detected and a description of actions taken are documented in the operating record within 7 days of detection - the approved remediation plan is implemented, - the remediation plan is placed in the operating record - the Department and the local governing body having jurisdiction are notified of the plan's implementation within 60 days of detection. <p>Verify that the remediation plan describes the nature and extent of the problem and the proposed remedy.</p> <p>Verify that all operating records are part of the engineering design and operation report and are maintained at the solid waste disposal facility, unless otherwise approved by the Department.</p> <p>Verify that all of the following are recorded and retained in the operating record:</p> <ul style="list-style-type: none"> - location restriction demonstration - inspection records - training procedures - gas monitoring results and any remediation plans required by detection - design documentation for controlling leachate or gas condensate - demonstrations, certifications, findings, data or documents required by groundwater monitoring - closure and postclosure care plans and any monitoring, testing, or analytical data - cost estimates and financial assurance documentation - information demonstrating compliance with waivers, if applicable.

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SO.8.7.CO. Solid waste disposal facilities must meet release notification requirements (6 CCR 1007-2, Sections 2.1.18).	<p>Verify that the Department and the local governing body having jurisdiction are notified when the documents have been placed in or added to the operating record.</p> <p>Verify that, if solid waste disposal facilities observe, or are made aware of a condition or event which is likely to cause a release or has caused a release of a substance containing a parameter identified in the facility detection monitoring program and that such condition or event is likely to cause a statistically significant increase over background, the Department and the local governing body having jurisdiction are notified in writing within 10 days.</p> <p>Verify that such notifications become part of the operating record of the facility.</p>

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STATE SPECIFIC SO.9. Specific Wastes SO.9.1.CO. Solid waste disposal facilities must not knowingly accept specific wastes (6 CCR 1007-2, Sections 2.1.2(A) and 2.1.14). SO.9.2.CO. Solid waste disposal facilities must implement a program for detection and prevention of PCB and hazardous waste disposal (6 CCR 1007-2, Section 2.1.2(B)). SO.9.3.CO. Residentially generated used lead-acid batteries, used oil and waste tires are prohibited from land disposal (6 CCR 1007-2, Section 16.2 and 16.3.1) [Added March 2008].	<p>Verify that solid waste disposal facilities do not knowingly receive any hazardous waste.</p> <p>Verify that solid waste disposal facilities do not accept liquid wastes or wastes containing free liquids for disposal without approval from the governing body having jurisdiction and the Department.</p> <p>Verify that solid waste disposal facilities implement a program for detection and the prevention of the disposal of polychlorinated biphenyl (PCB) wastes and hazardous wastes.</p> <p>Verify that the program includes all of the following:</p> <ul style="list-style-type: none"> - random inspections of incoming loads (unless the owner or operator takes other steps to ensure that incoming loads do not contain such wastes) - records of any inspections - training of facility personnel to recognize these wastes - notification of the Department if these wastes are discovered at the site and facility. <p>Verify that no person land disposes of residentially generated used lead-acid batteries, used oil and waste tires.</p> <p>(NOTE: Land disposal includes, but is not limited to, placing, discarding, or otherwise disposing of these wastes:</p> <ul style="list-style-type: none"> - at a solid waste disposal site and facility - at a transfer station - at a hazardous waste treatment, storage or disposal facility - in sewers - in septic tanks - in drainage systems - in surface or groundwaters - in watercourses - in any body of water - on the ground.) <p>Verify that no person places any of these wastes in a receptacle or collection</p>

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<p>SO.9.4.CO. Residentially generated used lead-acid batteries must be delivered to specific types of facilities (6 CCR 1007-2, Section 16.4.1) [Added March 2008].</p> <p>SO.9.5.CO. Residentially generated used lead-acid batteries at retailers, wholesalers or collection facilities must meet specific management standards (6 CCR 1007-2, Section 16.4.2 and 16.4.6) [Added March 2008].</p>	<p>device destined for land disposal, such as a dumpster.</p> <p>Verify that no solid waste disposal site or facility or transfer station accepts these wastes, except for the purpose of recycling or collection facility operations.</p> <p>(NOTE: Individuals residing in areas without recycling facilities or collection facilities are given the opportunity to demonstrate a lack of reasonable recycling options. The individual must contact the intended recipient solid waste disposal site and facility or transfer station to make sure that the facility will accept the used lead-acid batteries, used oil, and/or waste tires.)</p> <p>Verify that residentially generated used lead-acid batteries are not land-disposed (see SO.9.3.CO. above for details).</p> <p>Verify that residentially generated used lead-acid batteries are managed by delivery to one of the following entities:</p> <ul style="list-style-type: none"> - a retailer or wholesaler engaged in used lead-acid battery collection or recycling - a secondary lead smelter - a collection facility engaged in used lead-acid battery collection - a recycling facility engaged in used lead-acid battery recycling. <p>Verify that a retailer, wholesaler, or collection facility that accepts and stores residentially generated used lead-acid batteries manages the batteries in a manner that prevents the release of waste or waste constituents to the environment, as follows:</p> <ul style="list-style-type: none"> - any used lead-acid battery that shows evidence of leakage, spillage, or damage that could cause leakage, is placed in a container, where the container is: <ul style="list-style-type: none"> - closed - labeled as to its contents - structurally sound - compatible with the contents of the battery - lacking in evidence of leakage, spillage, or damage that could cause leakage - batteries that are not leaking and are in good condition are stored on pallets or in a comparable manner that keeps all batteries off the ground - batteries stored outside are protected from the weather - used lead-acid batteries are stored in a designated accumulation area indicated by signs, markings, or other identifiers - any release associated with the storage or recycling of lead-acid batteries is immediately contained and remediated. <p>(NOTE: A retailer, wholesaler, or collection facility that accepts and stores</p>

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<p>SO.9.6.CO. Residentially generated waste tires must be delivered to specific types of facilities (6 CCR 1007-2, Section 16.6.1 and 16.6.4) [Added March 2008].</p>	<p>residentially generated used lead-acid batteries in accordance with this Section and also accepts and stores used lead-acid batteries regulated under the Colorado Hazardous Waste Regulations 6 CCR 1007-3, may manage residentially generated used lead-acid batteries in accordance with:</p> <ul style="list-style-type: none"> - Section 16.4.2(A) [this checklist item] - hazardous waste requirements for Universal Wastes at 6 CCR 1007-3, Part 273, or - hazardous waste requirements for lead-acid batteries being reclaimed in accordance with 6 CCR 1007-3, Part 267, Subpart G.) <p>(NOTE: Residentially generated used lead-acid batteries that are collected during any periodic household hazardous waste collection event (where such wastes are not accepted on a continuous basis) are exempt from the standards in 16.4.2 [this checklist item], provided that the residentially generated used lead-acid batteries are managed to prevent release to the environment and are transferred from the site within thirty (30) calendar days following each collection event.)</p> <p>Verify that residentially generated waste tires are not land-disposed (see SO.9.3.CO. above for details).</p> <p>Verify that a person or commercial tire hauler dispose of residentially generated waste tires by delivery to one of the following entities:</p> <ul style="list-style-type: none"> - a retailer engaged in waste tire collection or recycling - a wholesaler engaged in waste tire collection or recycling - a waste tire monofill that has a certificate of designation - a collection facility engaged in waste tire collection - a recycling facility engaged in waste tire recycling. <p>Verify that a collection facility disposes of waste tires by delivery to a waste tire monofill having a certificate of designation or to a recycling facility engaged in waste tire recycling.</p>

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<p>SO.15.</p> <p>TRANSFER FACILITIES</p> <p>SO.15.1.CO. Solid waste transfer facilities must meet general requirements (6 CCR 1007-2, Section 7.1) [Revised March 2007].</p> <p>SO.15.2.CO. Solid waste transfer facility operating plans must contain general data and maps (6 CCR 1007-2, Section 7.2).</p>	<p>Verify that the solid waste transfer facility:</p> <ul style="list-style-type: none"> - accepts only residential and commercial waste - complies with the health laws, standards, rules and regulations of the Department, the stormwater rules of the Water Quality Control Commission, the Air Quality Control Commission, and all applicable local laws, ordinances, and regulations - maintains a copy of the approved operations plan onsite. <p>(NOTE: An intermediate processing facility is a transfer station under these regulations and a material recovery facility is a recycling facility (see SO.95).)</p> <p>Verify that the solid waste transfer facility develops an operating plan.</p> <p>Verify that the operating plan contains general data and maps, including:</p> <ul style="list-style-type: none"> - name(s), address(es), and telephone number(s) of the owner/operator and of the person(s) operating the facility and having the authority to take corrective action in an emergency - facility mailing address, county, and legal description including quarter section, section, township and range - regional map depicting service area, existing and proposed vicinity map showing: <ul style="list-style-type: none"> - access and service roads - zoning and land use - residences - water wells and the location of all surface water bodies - the location of 100-yr flood plain boundaries - all manmade or natural features relating to the facility within a 1/2 mi radius - site map showing adjacent properties including: <ul style="list-style-type: none"> - land use - property owners' names and addresses - site property boundaries and area (acres) - properties across any public roads or streets adjacent to the site - present site conditions - projected site utilization including all site structures - location of all water supplies and utilities - certification of the site map by a state licensed surveyor or engineer - site maps and drawings showing all the proposed structures and areas designated for unloading, bailing, compacting, storage, and loading, including the dimensions, elevations, and floor plans of these structures and

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<p>SO.15.3.CO. Solid waste transfer facility operating plans must include design criteria (6 CCR 1007-2, Sections 7.2.2, 7.2.3(K), and 7.2.3(N)).</p>	<p>areas, including the general process flow</p> <ul style="list-style-type: none"> - the facility's drainage system and water supply system. <p>Verify that the operating plan contains design criteria, including:</p> <ul style="list-style-type: none"> - unloading and loading areas that: <ul style="list-style-type: none"> - are adequate in size to facilitate efficient unloading from the collection vehicles and the unobstructed movement of vehicles are constructed of concrete or asphalt paving material and equipped with adequate drainage structures - are designed so that solid waste handling is confined to the smallest practical area - provide for solid waste handling supervision by competent operating personnel familiar with proper [proper is not defined] operational procedures - have sufficient internal storage areas to provide for incoming solid waste - have exhaust removal systems installed in enclosed areas - provide measures to prevent backing into pits while unloading - onsite roads that: <ul style="list-style-type: none"> - are designed to accommodate expected traffic flow in a safe and efficient manner - have a road surface design suitable for heavy vehicles - have a road base capable of withstanding expected loads - are passable in all weather conditions by loaded collection and transfer vehicles - have provisions for de-icing ramps during winter months - provide separate access for passenger vehicles where public dumping is allowed - equipment number, description and uses of all equipment projected to be employed, including the design capacity - types and heights of suitable gate and fencing material to be placed onsite - signs posted at all access points to the facility that include: <ul style="list-style-type: none"> - hours of operation - types of solid waste accepted and not accepted - operating hours during which the facility accepts wastes - emergency telephone numbers of a responsible party - a buffer zone of 200 ft around the active operating area to the nearest property line in residential zoned areas, or as otherwise specified by the governing body having jurisdiction. <p>Verify that adequate off-street parking is provided for facility vehicles.</p> <p>Verify that the transfer facility presents the amounts and source of water for use onsite for:</p> <ul style="list-style-type: none"> - the control of nuisance conditions

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<p>SO.15.4.CO. Solid waste transfer facilities must operate within established limits (6 CCR 1007-2, Section 7.2.3(A)).</p>	<ul style="list-style-type: none"> - fire protection - construction purposes - personnel use. <p>Verify that the solid waste transfer station operates within the limits imposed by:</p> <ul style="list-style-type: none"> - the types, composition, and expected daily volume of all solid waste to be accepted at the facility in cubic yards or tons per day - the maximum time any such waste will be stored - the proposed capacity of the transfer facility.
<p>SO.15.5.CO. Solid waste transfer facilities must maintain operational records (6 CCR 1007-2, Section 7.2.3(G)).</p>	<p>Verify that the solid waste transfer facility maintains operational records that include:</p> <ul style="list-style-type: none"> - a daily log of the quantity of solid waste received and transported - as-built construction details - variations from approved operations procedures. <p>Verify that operational records are kept onsite whenever practicable or as otherwise approved.</p>
<p>SO.15.6.CO. Solid waste must be containerized, transferred as soon as practicable, and ultimately treated or disposed of (6 CCR 1007-2, Sections 7.2.3(K) through 7.2.3(M)) [Revised March 2005].</p>	<p>Verify that storage space for incoming solid waste is available at the transfer facility.</p> <p>Verify that solid wastes that are not transferred within 24 h of their arrival at the transfer facility are placed in either:</p> <ul style="list-style-type: none"> - closed containers - totally enclosed buildings or structures - other means of cover acceptable to the Department. <p>Verify that uncompacted solid wastes are not allowed to remain on the tipping floor overnight.</p> <p>Verify that all putrescible solid waste is removed whenever transfer containers are full, or weekly, whichever comes first.</p> <p>Verify that uncleaned transfer vehicles containing putrescible solid waste material are not parked on public streets or roads except under emergency conditions.</p> <p>Verify that all solid waste passing through the transfer facility is ultimately treated or disposed of in an approved solid waste disposal site and facility.</p>

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<p>SO.15.7.CO. Solid waste transfer facilities must minimize nuisance conditions (6 CCR 1007-2, Section 7.2.3(D)).</p>	<p>Verify that the solid waste transfer facility employs all reasonable measures to collect, properly contain and dispose of scattered litter, including frequent policing of the area and the use of wind screens where necessary.</p> <p>Verify that the facility is managed in such a manner that:</p> <ul style="list-style-type: none"> - noise, dust, and odors do not constitute a hazard to human health - the attraction, breeding and emergence of birds, insects, rodents and other vectors do not constitute a health hazard.
<p>SO.15.8.CO. Solid waste transfer facilities must protect surface and groundwaters (6 CCR 1007-2, Section 7.2.3(E)).</p>	<p>Verify that control measures are provided to protect surface and groundwaters, including runoff collection and discharge, and are designed and operated to handle:</p> <ul style="list-style-type: none"> - a 24-h, 25-yr storm - equipment cleaning - washdown water.
<p>SO.15.9.CO. Solid waste transfer facilities must incorporate fire protection (6 CCR 1007-2, Section 7.2.3(F)).</p>	<p>Verify that fire protection equipment is available at all times.</p> <p>Verify that a fire protection plan, including provisions to prevent the spread of fire to adjoining property, is approved by the local fire department.</p>
<p>SO.15.10.CO. Solid waste transfer facilities must have contingency plans (6 CCR 1007-2, Section 7.2.3(H)).</p>	<p>Verify that the transfer facility has contingency plans that specify procedures to be followed in the event of:</p> <ul style="list-style-type: none"> - a hazardous materials incident, including sections for: <ul style="list-style-type: none"> - emergency response contacts equipment - identification of trained personnel - notification procedures - contamination of surface water or groundwater - nuisance conditions onsite or confirmed beyond the site boundary. <p>Verify that the transfer facility has an alternate solid waste handling system for periods of inability to operate or delays in transporting solid waste.</p> <p>Verify that the contingency plans are available at all times to transfer station attendants.</p>

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<p>SO.15.11.CO. Solid waste transfer facilities handling more than 100 yd³ of waste per day must be cleaned daily (6 CCR 1007-2, Sections 7.2.3(I) and 7.2.3(J)).</p>	<p>Determine whether the solid waste transfer facility handles more than 100 yd³ of waste per day.</p> <p>Verify that the facility is cleaned daily of all loose materials and litter, by wash-down or other approved method.</p> <p>Verify that all residuals are properly removed and disposed.</p> <p>Verify that all boxes, bins, pits or other container type used are cleaned on an approved schedule.</p> <p>Verify that all floors are free from standing water.</p> <p>Verify that all drainage from cleaning areas is discharged into sanitary sewers or undergoes other methods that meet local pretreatment standards.</p>
<p>SO.15.12.CO. Solid waste transfer facilities must meet personnel and supervision requirements (6 CCR 1007-2, Sections 7.2.3(B) and 7.2.3(C)).</p>	<p>Verify that the solid waste transfer facility documents the number, classification and job descriptions of personnel to be employed at the facility when operating at full capacity.</p> <p>Verify that the transfer facility implements a personnel training plan that includes:</p> <ul style="list-style-type: none"> - recognition of unauthorized waste such as polychlorinated biphenyls and hazardous wastes - equipment operation - any other personnel concerns. <p>Verify that facilities with permanent continually operating mechanical equipment have an attendant on duty at all times the facility is open to the public.</p>
<p>SO.15.13.CO. Solid waste transfer facilities must have closure plans (6 CCR 1007-2, Section 7.2.4).</p>	<p>Verify that the closure plan for final closure of the solid waste transfer station includes a plan for the removal of all stored solid wastes and washdown liquids.</p> <p>Verify that the Department and the local governing authority are notified, in writing, of temporary or permanent closure of the transfer facility.</p>

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<p>SO.30.</p> <p>NON-MSWLF SITES AND FACILITIES</p> <p>SO.30.1.CO. Non-MSWLF sites and facilities must meet the requirements for MSWLFs (6 CCR 1007-2, Section 3.0.2) [Added June 1998].</p>	<p>(NOTE: 6 CCR 1007-2, Section 3 (found in sections SO.55.CO. through SO.85.CO. in this Supplement) also applies to non-MSWLF sites and facilities. On a case-by-case demonstration basis, the application of these requirements to non-MSWLFs may be altered provided that the alternative standard is as protective of the environment and public health as the requirement specified in these regulations.)</p> <p>Verify that non-MSWLF sites and facilities meet the requirements of sections SO.55.CO. through SO.85.CO. in this Supplement.</p> <p>(NOTE: Findings for non-MSWLF sites and facilities must be written against SO.30.1.CO.)</p>

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MUNICIPAL SOLID WASTE LANDFILL SO.55. Location Restrictions SO.55.1.CO. Municipal solid waste landfills must not pose a bird hazard to aircraft (6 CCR 1007-2, Section 3.1.1). SO.55.2.CO. New municipal solid waste landfills and expansions of existing landfills must meet location restrictions (6 CCR 1007-2, Sections 3.1.2 through 3.1.4). SO.55.3.CO. Municipal solid waste landfills located in an unstable area must comply with engineering design standards (6 CCR 1007-2, Section 3.1.5). SO.55.4.CO. Municipal solid waste landfills must be located in areas that minimize potential wind and water damage (6 CCR 1007-2, Sections 3.1.6 and 3.17.).	<p>Verify that the solid waste landfill that accepts putrescible wastes demonstrates the ability to mitigate bird hazards if it is located within:</p> <ul style="list-style-type: none"> - 10,000 ft (3048 m) of any airport runway used by turbojets - 5000 ft (1523 m) of any airport runway used only by piston-type aircraft. <p>Verify that, unless required demonstrations are made, the new solid waste landfill or expansion to existing landfill is not located:</p> <ul style="list-style-type: none"> - in a wetland - within 200 ft (60 m) of a fault that has had a displacement in Holocene time - in seismic impact zones. <p>Verify that the solid waste landfill located in an unstable area demonstrates that engineering measures have been incorporated into the facility's design to ensure that the integrity of the structural components of the facility will not be disrupted.</p> <p>(NOTE: At a minimum, the following factors must be considered in determining whether an area is unstable:</p> <ul style="list-style-type: none"> - onsite or local soil conditions that may result in significant differential setting - onsite or local geologic or geomorphologic features - onsite or local human-made features or events (both surface and subsurface).) <p>Verify that the solid waste facility places the demonstration in the operating record of the facility and submits it to the Department and the local governing body having jurisdiction.</p> <p>Verify that the solid waste landfill is not located in a floodplain.</p> <p>Verify that the topography of the solid waste landfill site:</p> <ul style="list-style-type: none"> - maximizes protection against prevailing winds onsite - minimizes the amount of precipitation catchment area upgradient of the site.

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<p>SO.55.5.CO. Municipal solid waste landfills must isolate wastes from the public and the environment (6 CCR 1007-2, Section 3.1.8).</p>	<p>Verify that the solid waste landfill isolates wastes from the public and the environment.</p> <p>(NOTE: For purposes of compliance, emphasis is placed on favorable geologic conditions over engineered improvements of marginal geologic conditions.)</p>
<p>SO.55.6.CO. Municipal solid waste landfills must not place wastes below or into surface water or groundwater (6 CCR 1007-2, Section 3.1.9).</p>	<p>Verify that the solid waste landfill does not place wastes below or into surface water or groundwater.</p>

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MUNICIPAL SOLID WASTE LANDFILLS SO.60. Design Criteria SO.60.1.CO. MSWLF design and investigations must be reviewed and approved (6 CCR 1007-2, Sections 3.2 and 3.2.7). SO.60.2.CO. MSWLF engineering, design, and operations reports must include specific design data (6 CCR 1007-2, Sections 3.2.1 through 3.2.3).	<p>Verify that all portions of the MSWLF design and investigations are reviewed and sealed by a Colorado professional engineer or reviewed by a professional geologist, as appropriate.</p> <p>Verify that the operating record of the MSWLF contains a report signed by a Colorado registered professional engineer and approved by the Department that the designed construction of the MSWLF was completed in accordance with the approved plan.</p> <p>Verify that the engineering design and operations report includes, as a minimum, the following:</p> <ul style="list-style-type: none"> - geologic data: <ul style="list-style-type: none"> - types and regional thickness of unconsolidated soils materials - types and regional thickness of consolidated bedrock materials regional and local geologic structure, including bedrock strike and dip, and fracture patterns - geologic hazards, including but not limited to: <ul style="list-style-type: none"> - slope stability - faulting - folding - rockfall - landslides - subsidence or erosion potential - hydrologic data: <ul style="list-style-type: none"> - lakes, rivers, streams, springs or bogs, onsite or within 2 mi of the site boundary - depth to and thickness of perched zones and uppermost aquifer - groundwater wells within 1 mi of the site boundary, including: <ul style="list-style-type: none"> - well depth - depth to water - screened intervals - yields - aquifers tapped - hydrologic properties of the perched zones and uppermost aquifer, including: <ul style="list-style-type: none"> - flow directions - flow rates - porosity - coefficient of storage

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<p>SO.60.3.CO. Liners used in MSWLFs must meet design requirements (6 CCR 1007-2, Section 3.2.5(A)).</p>	<ul style="list-style-type: none"> - permeability - potentiometric surface - site location in relation to the base floodplain of nearby drainages - evaluation of the potential for impacts to existing surface water and groundwater quality from the proposed facility for solid waste disposal - existing quality of groundwater beneath the proposed facility - engineering data: <ul style="list-style-type: none"> - type, quantity and location of material required for use as a daily and intermediate cover over the life of the site and facility - type and quantity of material required for use as liner material or final cover, including its compaction density and moisture content specifications and the design permeability - maps and plans, drawn to a convenient common scale, that show: <ul style="list-style-type: none"> - location and depth of cut for liners - daily or intermediate cover, and final cover - location and depth of proposed fill or processing areas - location, dimensions, and grades of all surface water diversion structures - location and dimensions of all surface water containment structures, including those designed to impound contaminated runoff, leachate, sludge, or liquids for evaporative treatment - spatial distribution of engineering, geologic and hydrologic data, and relationship to the proposed facility - location of all proposed facility structures and access roads - location of all proposed monitoring points for surface water and groundwater quality and explosive gases - final contours and grades of the fill surface after closure - location of fencing to be placed onsite - location of each discrete phase of development - design details of the final cap, liner, and leachate collection system. <p>Verify that the liner complies with the groundwater protection standards at the relevant point of compliance.</p> <p>Verify that the MSWLF demonstrates compliance of the liner design by considering at least:</p> <ul style="list-style-type: none"> - barrier layer permeability - barrier layer thickness - barrier layer porosity - slope of the barrier layer - hydraulic head on the barrier layer - distance to relevant point of compliance - distance and characteristics, including quality, of the uppermost aquifer or monitored unit - climatic factors

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<p>SO.60.4.CO. Barrier layers for MSWLF liners must meet design requirements (6 CCR 1007-2, Sections 3.2.5(B) and 3.2.5(C)).</p>	<ul style="list-style-type: none"> - estimated volume, physical characteristics and chemical characteristics of the leachate - chemical compatibility of the barrier layer to estimated leachate chemical characteristics - the distance groundwater beneath the site would flow during the facility's operating life and postclosure care period. <p>Verify that the distance to domestic wells or springs shown to tap the uppermost aquifer downgradient of the site is presented in the demonstration of compliance.</p> <p>Verify that the barrier layer is an engineered improvement that meets the performance standard of 40 CFR 258.40(a)(1).</p> <p>Verify that the barrier layer is one of the following:</p> <ul style="list-style-type: none"> - natural lithology with recomputation, provided that: <ul style="list-style-type: none"> - a minimum thickness of 20 ft of soils and/or bedrock with in-situ hydraulic conductivity demonstrated through field testing to be $\leq 1.0 \times 10^{-6}$ cm/s, is/are present at the base of an excavation of a sanitary landfill - the upper 12 in. is recompacted to achieve a hydraulic conductivity $\leq 1 \times 10^{-7}$ cm/s - a soil liner consisting of at least 3 ft of compacted soil with an adequate moisture content and with a hydraulic conductivity $\leq 1 \times 10^{-7}$ cm/s - a composite liner consisting of: <ul style="list-style-type: none"> - a lower component comprising a minimum 2-ft layer of compacted soil with a hydraulic conductivity $\leq 1 \times 10^{-7}$ cm/sec - an upper component comprising a minimum 30-mil flexible membrane liner installed in direct and uniform contact with the compacted soil component - an alternative design that meets Department approval. <p>(NOTE: Flexible membrane liner components consisting of high density polyethylene must be at least 60-mil thick.)</p> <p>(NOTE: Alternative barrier layer designs include, but are not limited to:</p> <ul style="list-style-type: none"> - geosynthetic clay liners - natural lithology without recompaction - soil admixtures - geomembranes - polymers - variations of the above design components.)
<p>SO.60.5.CO. Leachate collection and removal</p>	<p>Verify that the leachate collection system is designed and constructed:</p>

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<p>systems for MSWLFs must meet design requirements (6 CCR 1007-2, Sections 3.2.5(B), 3.2.5(D), and 3.3.7).</p>	<ul style="list-style-type: none"> - to maintain less than a 12-in. depth of leachate over the barrier layer - to promote transport of leachate from the most distant point of the leachate collection system to the leachate removal system in less than 12 mo (assuming a saturated drainage medium). <p>Verify that the design of the leachate collection system includes at least:</p> <ul style="list-style-type: none"> - waste type - anticipated leachate generation rate - slope length - percent slope - barrier layer - hydraulic conductivity of the drainage layer - long term performance during the active life and postclosure care period. <p>Verify that the leachate removal system is designed, constructed, and operated to:</p> <ul style="list-style-type: none"> - allow the leachate collection system to perform as designed - account for potential increased hydraulic head in the removal system. <p>(NOTE: Leachate and landfill gas condensate may be recirculated over the landfill with specific approval by the Department and the local governing authority.)</p>
<p>SO.60.6.CO. Surface water control systems for MSWLFs must meet design requirements (6 CCR 1007-2, Section 3.2.6).</p>	<p>Verify that the surface water control system for the MSWLF is designed, constructed and maintained to:</p> <ul style="list-style-type: none"> - restrict flow onto the active portion of the landfill during peak discharge from a 25-yr, 24-h storm - control the water volume resulting from a 25-yr, 24-h storm from the active portion of the landfill. <p>Verify that the permanent surface water diversion structures remaining after closure control run-on and runoff from the 100-yr, 24-h storm event.</p>

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<p>MUNICIPAL SOLID WASTE LANDFILLS</p> <p>SO.65. Operating Criteria</p> <p>SO.65.1.CO. MSWLF engineering, design, and operations reports must include specific operating criteria data (6 CCR 1007-2, Sections 3.3.1 and 3.3.2).</p>	<p>Verify that the MSWLF engineering design and operations report includes, as a minimum, the following:</p> <ul style="list-style-type: none"> - general data: <ul style="list-style-type: none"> - mailing address, county and legal description of the landfill for solid waste disposal, township, section, quarter Section, and range - area of site, in acres - type of landfill for solid waste disposal proposed for the site - the landfill's service area, including transportation corridors and surrounding access - operational data: <ul style="list-style-type: none"> - the qualifications, names and addresses of the persons operating the landfill and having the authority to take corrective action in the case of noncompliance - the hours of the day and days of the week that the landfill will be operating - the types and daily volumes in yards per day and/or gal per mo of wastes to be received - expected life of the site - a listing of the waste stream types to be approved for routine receipt - number, classification and job descriptions of personnel projected to be employed at the landfill when operating at full capacity - number, description and uses of all equipment projected to be employed at the landfill when operating at full capacity - size and types of disposal cells or processing areas to be constructed - frequency of the application of adequate cover - types and heights of fencing to be placed onsite - provisions to minimize nuisance conditions onsite - provisions for fire protection to eliminate open burning onsite and to prevent the spread of open burning to adjoining property - provisions for the retrieval of windblown solid wastes, on or offsite - conceptual plans to be implemented if the contamination of surface waters or groundwaters occur, or if nuisance conditions are confirmed beyond the site boundary - the amounts and sources of water to be used onsite for: <ul style="list-style-type: none"> - the control of nuisance conditions - fire protection - construction purposes - personnel use.

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<p>SO.65.2.CO. Engineered structures at MSWLFs must have quality assurance and quality control reports (6 CCR 1007-2, Section 3.3.3).</p>	<p>Verify that a quality assurance and quality control report is developed and implemented for each engineered structure at the MSWLF.</p>
<p>SO.65.3.CO. Cover material for MSWLFs must meet minimum requirements (6 CCR 1007-2, Section 3.3.4).</p>	<p>Verify that the MSWLF covers disposed solid waste with 6 in. of earthen material at the end of each operating day, or at more frequent intervals if necessary.</p> <p>(NOTE: Alternative materials of alternative thickness may be approved by the Department and the governing body having jurisdiction, provided that the MSWLF demonstrates that the alternative material and thickness control nuisance conditions and scavenging without presenting a threat to human health and the environment.)</p> <p>(NOTE: A temporary waiver from the requirement of daily and intermediate cover may be granted by the Department or the governing body having jurisdiction, provided that the MSWLF demonstrates that there are extreme seasonal climatic conditions that make meeting such a requirement impractical.)</p>
<p>SO.65.4.CO. Adequate cover material must be readily available at all times at the MSWLF(6 CCR 1007-2, Section 3.3.5).</p>	<p>Verify that sufficient amounts of adequate cover are readily available at the MSWLF for use throughout the site's life and for closure to minimize nuisance conditions, as necessary.</p>
<p>SO.65.5.CO. Adequate amounts of water must be available at MSWLFs (6 CCR 1007-2, Section 3.3.6).</p>	<p>Verify that adequate amounts of water are available for construction purposes and to minimize nuisance conditions, as necessary.</p>

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MUNICIPAL SOLID WASTE LANDFILLS SO.75. Closure Criteria SO.75.1.CO. MSWLFs must develop closure plans (6 CCR 1007-2, Section 3.5.1). SO.75.2.CO. Final grades for MSWLFs must meet closure standards (6 CCR 1007-2, Section 3.5.2). SO.75.3.CO. Final cover for MSWLFs must meet permeability and design requirements (6 CCR 1007-2, Sections 3.5.3 and 3.5.4).	<p>Verify that the MSWLF closure plan:</p> <ul style="list-style-type: none"> - is prepared and submitted to the Department for approval - describes the steps necessary to close the landfill at any point during its active life - includes a description of the final cover system and the methods and procedures to be used to install the cover - estimates the largest area of the landfill ever requiring final cover during the active life - includes a schedule for completing all activities necessary to satisfy closure criteria. <p>(NOTE: Discrete units of a landfill may be closed independently of closure of the entire facility.)</p> <p>Verify that the final grades of the MSWLF:</p> <ul style="list-style-type: none"> - promote surface water runoff - minimize erosion - have slopes no less than 5 percent (20:1) and no greater than 25 percent (4:1). <p>(NOTE: Variations from these standards may be acceptable if the MSWLF demonstrates the adequacy of proposed variance to the Department.)</p> <p>Verify that final cover permeability does not exceed that of the liner.</p> <p>Verify that the final cover design consists of one of the following:</p> <ul style="list-style-type: none"> - a soil final covering consisting of: <ul style="list-style-type: none"> - an infiltration layer comprising a minimum of 18 in. of earthen material that has the lesser value of either: <ul style="list-style-type: none"> - a permeability \leq the permeability of any bottom liner system or natural subsoils present - a permeability no greater than 1×10^{-5} cm/s - an erosion layer of earthen material a minimum of 6 in. in thickness that is capable of sustaining native plant growth - a composite final cover consisting of:

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<p>SO.75.4.CO. MSWLFs must follow a specific time frame when closing (6 CCR 1007-2, Sections 3.5.5 through 3.5.7).</p>	<ul style="list-style-type: none"> - a foundation layer comprising a minimum 6 in. soil layer, located immediately above the refuse, to provide a suitable foundation for placement of the geomembrane - a barrier layer consisting of a geomembrane that has a minimum 30-mil thickness and displays properties adequate for its intended purpose as determined by: <ul style="list-style-type: none"> - the effects of landfill settlement - permeability - seam strength - friction properties - puncture resistance - a rooting layer of soil at least 18 in. thick that is capable of supporting a root system - a seed bed layer of soil at least 6 in. thick that is capable of supporting plant germination - an alternative design, approved by the Department, including but not limited to: <ul style="list-style-type: none"> - geocomposite materials - soil admixtures - polymers - variations of the above design components. <p>Verify that the final cover is designed so that landfill gases will not adversely affect cover performance.</p> <p>Verify that the MSWLF has approval of the closure plan.</p> <p>Verify that, prior to beginning closure, the MSWLF:</p> <ul style="list-style-type: none"> - notifies the Department - places notice of the intent to close the phase in the operating record. <p>Verify that the MSWLF commences closure activities for each landfill phase no later than 30 days after final refuse grades are reached.</p> <p>(NOTE: The Department may grant extensions beyond the 30-day deadline for beginning closure provided that the MSWLF demonstrates that all steps necessary to prevent threats to human health and the environment from the active landfill will be taken.)</p> <p>Verify that the MSWLF completes closure activities of each landfill phase in accordance with the closure plan and within 180 days following the beginning of closure.</p> <p>(NOTE: The Department may grant extensions of the closure period provided that the MSWLF demonstrates that:</p> <ul style="list-style-type: none"> - closure will of necessity take longer than 180 days

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	- all steps to prevent threats to human health and the environment have been taken and will continue.)

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<p>CCR 1007-2, Section 3.6.2).</p> <p>SO.80.3.CO. Postclosure care for MWSLFs must be conducted for at least 30 yr (6 CCR 1007-2, Section 3.6.3).</p>	<p>accordance with the postclosure plan.</p> <p>Verify that the MSWLF notifies the Department that the certification has been placed in the operating record.</p> <p>Verify that postclosure care is conducted for a minimum of 30 yr.</p> <p>(NOTE: The length of the postclosure care period may be:</p> <ul style="list-style-type: none"> - decreased by the Department after consultation with the local governing body having jurisdiction provided that the MSWLF demonstrates that the reduced period is sufficient to protect human health and the environment - increased by the Department after consultation with the local governing body having jurisdiction if it is determined that the lengthened period is necessary to protect human health and the environment.)

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<p>MUNICIPAL SOLID WASTE LANDFILLS</p> <p>SO.85. Documentation</p> <p>SO.85.1.CO. MSWLFs must maintain an operating record that includes specific information (6 CCR 1007-2, Section 3.4)</p> <p>SO.85.2.CO. MSWLFs must indicate closure in the property deed and operating records (6 CCR 1007-2, Section 3.4.1).</p>	<p>Verify that an operating record is maintained for each MSWLF and includes:</p> <ul style="list-style-type: none"> - incoming waste volumes - water quality monitoring results - explosive gas monitoring results - construction as-built details - variations from approved operations procedures - any required demonstration and waiver documentation. <p>Verify that, upon closure, the MSWLF:</p> <ul style="list-style-type: none"> - records a notation on the deed to the facility property, or some other instrument that is normally examined during title search - notifies the Department and the local governing body having jurisdiction that notation has been recorded and a copy has been placed in the operating record. <p>Verify that the notation on the deed notifies in perpetuity any potential purchaser of the property that:</p> <ul style="list-style-type: none"> - the land has been used as a landfill facility - its use is restricted by postclosure requirements. <p>(NOTE: The Department may grant permission to remove the notation from the deed if all wastes are removed from the facility.)</p>

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through 6.2.10) [Citation Revised July 1997].	<p>infiltration and control erosion.</p> <p>Verify that a plan for monitoring leachate in the collection system and procedures for handling, treatment and disposal is contained in the facility operations report.</p> <p>Verify that monitoring of the leachate detection and collection system and groundwater monitoring will continue through postclosure for a minimum of 20 yr.</p> <p>(NOTE: Moved from SO.170.1.CO., March 2005.)</p> <p>(NOTE: These regulations apply to the management and disposal of municipal solid waste incinerator ash, except for those facilities in operation prior to 30 January 1989, unless required by the Department.)</p>

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<p>SO.95.</p> <p>RESOURCE RECOVERY FACILITIES</p> <p>SO.95.1.CO. Recycling facilities must register and meet minimum management requirements (6 CCR 1007-2, Waste Pt. 18, Sections 8.1, 8.2.7, and 8.3) [Added March 2007; Citation Revised March 2009].</p> <p>SO.95.2.CO. Recycling facilities must meet minimum operational requirements (6 CCR 1007-2, Waste Pt. 18,</p>	<p>(NOTE: The purpose of this section is to provide a regulatory structure for facilities that recycle solid waste that comprises recyclable materials. These regulations are intended to be self-implementing. No permit from the Department is required. To be considered a recycling facility, the facility must recycle material at rates established in these regulations.)</p> <p>Verify that recycling facilities register with Department and report annually to the Department.</p> <p>Verify that, after an initial accumulation period, a recycling facility is able to show that the quantity of recyclable material is at least 75 percent of the quantity of recyclable materials in inventory.</p> <p>(NOTE: The accumulation period is to be based on a 3-year rolling average of the facility's stock of the recyclable material at the end of the previous calendar year, in order to allow for variations in the market. Upon filing a written justification to the Department, a recycling facility may implement a commodity and site-specific variance to the accumulation period, and/ or the recycling rate, and/or a material-specific variance to the accumulation period and/or recycling rate.)</p> <p>(NOTE: The following activities and/or facilities are not subject to the regulations of this section:</p> <ul style="list-style-type: none"> - drop-off or buy-back centers for recyclable materials are not subject to these regulations, including household hazardous waste facilities - recycling facilities that are located on the same site where the waste is generated, and that recycle or store only waste from that site (examples are: an office building that stores materials for routine pick-up by a recycler or a construction project that is processing materials derived from the project) - businesses that recycle materials only as a side-line or by-product of their normal business activities (examples are: a gravel operation that brings in concrete or asphalt rubble for eventual grinding into recycled aggregate or highway construction projects that process concrete and asphalt as part of the overall project) - composting facilities that are regulated under section 14 of these regulations - facilities that collect and process automobiles, appliances or scrap metal components.) <p>Verify that all recycling facilities are operated and managed to minimize the potential for release of contaminants to ground water and to minimize the creation of dust and odors or other nuisance conditions.</p>

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<p>Sections 8.5) [Added March 2007; Citation Revised March 2009].</p> <p>SO.95.3.CO. Recycling facilities must meet reporting and recordkeeping requirements (6 CCR 1007-2, Waste Pt. 18, Sections 8.4) [Added March 2007; Citation Revised March 2009].</p>	<p>Verify that recycling facilities comply with the health laws, standards, rules, and regulations of the Department, the Water Quality Control Commission, the Air Quality Control Commission, and all applicable local laws and ordinances.</p> <p>Verify that recycling facilities are adequately fenced or secured.</p> <p>Verify that recycling facilities submit upon their opening a notification that contains at least the following information:</p> <ul style="list-style-type: none"> - the name and address of the facility, including a business and corporate name as necessary - the name and address of the owner and the operator - the emergency contact information for a 24-hour contact - the types of recyclable material recycled or reused at the facility. <p>Verify that, on or before the first of May of each year, each recycling facility submits to the Department an annual report for the previous calendar year containing at least the following information:</p> <ul style="list-style-type: none"> - the name and address of the facility including a business and corporate name as necessary - the name and address of the owner and the operator - the emergency contact information for a 24-hour contact - the types of recyclable material recycled or reused at the facility - the amount of each recyclable material, by weight or by volume. <p>Verify that all information required to be kept is furnished upon request or is made available at all reasonable times for inspection.</p>
<p>SO.95.4.CO. Recycling facilities must meet closure requirements (6 CCR 1007-2, Waste Pt. 18, Sections 8.6) [Added March 2007; Citation Revised March 2009].</p>	<p>Verify that the Department is notified, in writing in advance of the closure date.</p> <p>Verify that the owner or operator of a recycling facility notifies the facility's customers in advance of the proposed closure date by placing signs of suitable size at the entrance to the facility and take other reasonable precautions to prevent further use of the site and facility for unauthorized disposal.</p> <p>Verify that all solid waste and all other materials are removed from the facility prior to closure and potential nuisance conditions are addressed.</p> <p>Verify that wastes are taken to an appropriate solid waste site and facility for proper management or disposal.</p>

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<p>MEDICAL WASTE</p> <p>SO.105. Generators</p> <p>SO.105.1.CO. Facilities that store, collect, treat, process, or dispose of infectious waste are required to have a certificate of designation (6 CCR 1007-2, Sections 13.2 and 13.3) [Added March 2005].</p>	<p>(NOTE: The following are exempt from this requirement providing that all applicable water quality and air quality regulations are met:</p> <ul style="list-style-type: none"> - facilities that operate equipment or a facility for treatment of infectious wastes generated onsite and such other infectious wastes as are generated through the normal operation of their business or occasional treatment of infectious waste as a community service - facilities that have been issued a certificate of designation for hazardous waste disposal and - disposal of household infectious waste). <p>Verify that a certificate of designation has been obtained.</p> <p>(NOTE: Repeated in SO.120.1.CO.)</p>

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MEDICAL WASTE SO.120. Treatment/Disposal SO.120.1.CO. Facilities that store, collect, treat, process, or dispose of infectious waste are required to have a certificate of designation (6 CCR 1007-2, Sections 13.2 and 13.3). SO.120.2.CO. Infectious waste must be rendered noninfectious by approved treatment methods (6 CCR 1007-2, Section 13.4). SO.120.3.CO. Autoclaves used for the treatment of infectious waste must meet specific requirements (6 CCR 1007-2, Section 13.4.2).	<p>(NOTE: The following are exempt from this requirement providing that all applicable water quality and air quality regulations are met:</p> <ul style="list-style-type: none"> - facilities that operate equipment or a facility for treatment of infectious wastes generated onsite and such other infectious wastes as are generated through the normal operation of their business or occasional treatment of infectious waste as a community service - facilities that have been issued a certificate of designation for hazardous waste disposal and - disposal of household infectious waste). <p>Verify that a certificate of designation has been obtained.</p> <p>(NOTE: Repeated in SO.105.1.CO.)</p> <p>(NOTE: These methods may include, but are not limited to, incineration, autoclaving, decontamination, or sterilization.)</p> <p>Verify that infectious waste treatment methods are approved by the Department.</p> <p>Verify that ash from an infectious waste incinerator is tested in order to assure that it is nonhazardous.</p> <p>Verify that, if wastes are discharged to a sewage treatment system, it is liquid or semisolid and permission has been received from the wastewater treatment operator.</p> <p>Verify that infectious waste containing any recognizable human anatomical remains is incinerated or interred.</p> <p>Verify that the facility has standard written operating procedures for each autoclave that includes the following:</p> <ul style="list-style-type: none"> - time - temperature - pressure - type of waste - type of container - closure on container

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<p>SO.120.4.CO. Infectious waste disposal facilities must meet certain operating requirements (6 CCR 1007-2, Sections 13.1 and 13.7).</p>	<ul style="list-style-type: none"> - pattern of loading - water content - maximum load quantity. <p>Verify that thermometers are checked for calibration at least quarterly.</p> <p>Verify that there is a check of recording and/or indicating thermometers during each complete cycle to ensure the attainment of a temperature of 121 °C (250 °F) for 1/2 h or longer, depending on the quantity and compaction of the load.</p> <p>Verify that there is use of heat sensitive tape or other device for each container that is processed to indicate the attainment of adequate sterilization conditions.</p> <p>Verify that there is use of the biological indicator <i>Bacillus stearothermophilus</i> placed at the center of a load processed under standard operating conditions at least once a mo to confirm the attainment of adequate conditions.</p> <p>Verify that maintenance records for all procedures are kept for at least 1 yr.</p> <p>Verify that facility is operated as specified in the approved engineering design and operations report and other applicable permits.</p> <p>Verify that no hazardous wastes are received or treated at the facility unless the facility has a valid hazardous waste permit.</p> <p>Verify that infectious wastes to be stored longer than 48 h are stored inside in an enclosure structure maintained at 45 °F or less that provides a minimum of 3 days storage, considering both volume (cubic yards) and weight (tons).</p> <p>Verify that wastes are handled in a manner that maximizes complete treatment of the waste.</p> <p>Verify that the facility is inspected daily or more frequently as necessary to detect problems.</p> <p>Verify that inspection records are maintained for 2 yr.</p> <p>Verify that corrective action is implemented when problems are detected.</p> <p>Verify that access to the facility is controlled to prevent unauthorized access or disposal.</p> <p>Verify that the facility is not a health or environmental hazard, and that nuisance conditions do not exist.</p> <p>(NOTE: Untreated waste may not be stored longer than 2 weeks without</p>

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<p>SO.120.5.CO. Infectious waste disposal facilities must follow certain closure procedures (6 CCR 1007-2, Sections 13.7.9 and 13.7.10).</p> <p>SO.120.6.CO. Infectious waste facilities that transport, handle, or store untreated infectious wastes are required to meet certain minimum standards (6 CCR 1007-2, Section 13.8).</p>	<p>Departmental authorization.)</p> <p>Verify that the Department is notified at least 60 days prior to the closure date.</p> <p>Verify that the facility is closed according to regulations in effect at the time of closure and the closure plan.</p> <p>(NOTE: If the closure plan is amended, it must be submitted for review and approval by the Department 60 days prior to closure.)</p> <p>Verify that receptacles containing infectious waste are clearly labeled with the biohazard symbol or with the words “infectious waste” printed in letters no less than 1 in. in height.</p> <p>Verify that infectious wastes are stored, packaged, contained, and transported in a manner that prevents the release of waste material and in a manner that does not allow nuisance conditions to occur.</p> <p>Verify that contaminated sharps are placed in puncture resistant containers and made noninfectious by an acceptable treatment method.</p> <p>Verify that untreated containers of sharps are not compacted.</p> <p>Verify that spills are cleaned up immediately and those that affect the environment, or expose workers or the general public to potential infection are reported to the Department and the local governing body having jurisdiction within 24 h.</p> <p>Verify that only treated infectious waste is mixed with noninfectious waste and is clearly labeled and documented.</p>

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<p>MEDICAL WASTE</p> <p>SO.125. Documentation</p> <p>SO.125.1.CO. Facilities that store, collect, treat, process, or dispose of infectious wastes are required to keep records (6 CCR 1007-2, Section 13.5).</p>	<p>Verify that the following information about the waste is recorded:</p> <ul style="list-style-type: none"> - volume of waste - type of waste - generator name and address - type of transport - container types - treatment and disposal records - dates of pick-up, treatment, and disposal. <p>Verify that a daily log or equivalent is maintained that records the following:</p> <ul style="list-style-type: none"> - hours of operation - records to identify sources of incoming waste - equipment maintenance or replacement - variations from approved operational procedures - inspections performed and any necessary action taken in response to them - deviation from operating permit limits or conditions of the certificate of designation and corrective actions taken. <p>Verify that monitoring records are maintained and include the following if applicable:</p> <ul style="list-style-type: none"> - results of stack tests - results of ash residue testing - information about water discharges. <p>Verify that records are maintained for unauthorized wastes received and returned to the generator or source.</p> <p>Verify that these records are kept by the infectious waste disposal facility regardless of the origin of the waste for at least 2 yr.</p>

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<p>SO.135.</p> <p>LANDFILLS</p> <p>SO.135.1.CO. Sanitary landfills must meet specific requirements (6 CCR 1007-2, Sections 2.1.10, 2.1.12, 2.1.13, and 2.1.16).</p>	<p>Verify that sanitary landfills:</p> <ul style="list-style-type: none"> - do not accept raw sludges from wastewater treatment plants, septic tank pumpings, or chemical toilet wastes without approval - do not co-dispose sludges with other solid wastes without approval - provide compaction of solid waste - distribute solid wastes in the smallest area possible and places in the most dense volume practicable using an approved method - provide adequate cover. <p>Verify that filled sites are left in a condition of orderliness and good aesthetic appearance.</p>

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<p>SO.145.</p> <p>INCINERATORS</p> <p>SO.145.1.CO. Solid waste incineration facilities are required to follow certain operating requirements (6 CCR 1007-2, Sections 11.3.2 and 11.3.4 through 11.3.15) [Revised July 1997, Revised May 1998; Revised March 1999].</p>	<p>(NOTE: The following provisions apply to solid waste incineration facilities and privately operated solid waste-to-energy facilities not under contract to a county and/or municipality.)</p> <p>(NOTE: Facilities incinerating solid waste not typical of municipal solid waste will be evaluated on a case-by-case basis for specific handling and combustion requirements.)</p> <p>Verify that the solid waste incineration facility is operated in accordance with procedures specified in the approved engineering design and operations report and in the air emissions permit.</p> <p>Verify that wastes that are incinerated at solid waste incineration facilities have specific approval from the Hazardous Materials and Waste Management Division and the Air Pollution Control Division (with the exception of asbestos, which must be handled and disposed of according to Section 5 of the Colorado Regulations pertaining to Solid Waste Disposal Sites and Facilities.)</p> <p>Verify that municipal solid waste is stored under negative air pressure inside an enclosed structure or building that provides a minimum of 3 days storage, considering both volume (cubic yards) and weight (tons) at the installed design capacity of the combustion unit.</p> <p>Verify that all solid waste is handled to maximize complete combustion of the waste and minimize any potential for fire, explosion, safety hazard, or adverse public health effects.</p> <p>Verify that facility access is controlled to preclude unauthorized disposal and that adequate visual screening is conducted to ensure removal of hazardous or other unacceptable wastes such as large bulky appliances, asbestos not approved for incineration at the facility.</p> <p>Verify that operations are conducted in such a way as to prevent litter and nuisance conditions from occurring.</p> <p>Verify that the facility is inspected daily or more frequently if necessary to detect problems with vectors, litter, fugitive emissions, odors or equipment, that inspection records are maintained, and that any necessary corrective action implemented.</p> <p>Verify that the discharge of quenching and/or scrubber water is in compliance with all state and local water quality control regulations and sewer district</p>

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<p>SO.145.2.CO. Solid waste incineration facilities are required to meet specific design and operational criteria (6 CCR 1007-2, Section 11.3.3).</p>	<p>requirements.</p> <p>Verify that an alternative waste handling or backup plan as approved in the Engineering Design and Operations report is implemented in periods of facility shutdown.</p> <p>Verify that ash is handled in closed conveyors and containers, and stored and transported in a manner to prevent leakage and dispersal.</p> <p>Verify that floors have adequate drainage and are free of standing water.</p> <p>Verify that all equipment operators and personnel are trained in the design and operation of the facility.</p> <p>(NOTE: The following provisions apply to solid waste incineration facilities and privately operated solid waste-to-energy facilities not under contract to a county and/or municipality.)</p> <p>Verify that all solid waste incineration facilities are designed, constructed, operated, and monitored in compliance with all applicable requirements of the regulations promulgated by the Air Quality Control Commission, 5 CCR 1001-1 to 22.</p> <p>Verify that all monitoring results are reported quarterly to the Department and the local governing body having jurisdiction, except that upset conditions, and corrective action taken in response to the upset condition, are reported to the Department and the local governing body having jurisdiction as soon as possible, but no later than one business day after the occurrence of the upset condition.</p>
<p>SO.145.3.CO. Solid waste incineration facilities are required to follow certain procedures for closure (6 CCR 1007-2, Sections 11.3.16 through 11.3.18).</p>	<p>(NOTE: The following provisions apply to solid waste incineration facilities and privately operated solid waste-to-energy facilities not under contract to a county and/or municipality.)</p> <p>Verify that the Department and the local governing body having jurisdiction have been notified at least 120 days prior to closure date.</p> <p>Verify that the facility is closed in accordance with all new applicable regulations in effect at the time of closure and with the closure plan.</p> <p>Verify that public notice is given at least 60 days prior to closure of the facility by the placement of signs of suitable size at the entrance of the facility.</p> <p>(NOTE: If the closure plan is amended, it must be submitted for review and approval by the Department 120 days prior to closure.)</p>

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<p>SO.145.4.CO. Solid waste incineration facilities are required to maintain records (6 CCR 1007-2, Section 11.4).</p>	<p>(NOTE: The following provisions apply to solid waste incineration facilities and privately operated solid waste-to-energy facilities not under contract to a county and/or municipality.)</p> <p>Verify that a daily log is maintained and includes the following information:</p> <ul style="list-style-type: none"> - hours of operation - total number of incoming vehicles using the facility - quantities of refuse derived fuel, residential and commercial refuse received, industrial or special waste streams, and residues or recyclable materials shipped for disposal or recycling - sources of incoming wastes - equipment maintenance or replacement - variations from approved operational procedures - inspections performed and any necessary actions taken in response to them. <p>Verify that monitoring records are maintained that include the following:</p> <ul style="list-style-type: none"> - stack tests and continuous monitoring results for the facility operations - any testing of ash residues - information regarding water discharges. <p>Verify that other records including personnel training records, contingency plans, emergency procedures, as-built construction details, and maintenance plans and schedules are maintained.</p>
<p>SO.145.5.CO. Solid waste incinerator ash must be handled and disposed according to certain requirements (6 CCR 1007-2, Section 11.5).</p>	<p>(NOTE: The following provisions apply to solid waste incineration facilities and privately operated solid waste-to-energy facilities not under contract to a county and/or municipality.)</p> <p>Verify that all residual ash from solid waste incineration facilities and associated wastewater and fugitive dust handling and disposal complies with all applicable laws and regulations, and with all applicable local zoning laws and ordinances.</p> <p>Verify that residual ash is dewatered to remove any free liquids prior to shipment to a disposal site.</p> <p>Verify that ash is transported in equipment designed to prevent leakage, spillage, or dispersion of material.</p> <p>Verify that solid waste incinerator ash is either beneficially used or reused, or finally disposed in accordance with all applicable regulations.</p> <p>(NOTE: Beneficial use or reuse of ash from a solid waste incineration facility</p>

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	must be approved by the Department.)

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<p>1007-2, Section 9.5).</p>	<p>impound wastes</p> <ul style="list-style-type: none"> - monitoring wells or sump access pipes that are lockable - a precipitation gauge, if evaporation treatment used - a means of quickly and accurately determining the total volume of wastes in each impoundment. <p>Verify that all impoundment facilities have upgradient and downgradient monitoring wells to confirm the permeability of bedrock or quality of aquifer water and to allow sampling of recharge or seepage from the impoundment.</p> <p>Verify that clay soil liners are protected from erosion, desiccation, or drying by soils or synthetic covers and influent energy dissipation devices or pads.</p> <p>Verify that facilities that include tanks include plans and specifications for the tanks and associated piping in the facility engineering report.</p> <p>Verify that a minimum 2 ft of free board is maintained.</p>
<p>SO.155.3.CO. Waste impoundments are required to meet specific requirements concerning liner installation (6 CCR 1007-2, Section 9.6).</p>	<p>Verify that lining material for waste impoundments is compatible with wastes to be received.</p> <p>Verify that synthetic liners have been installed according to the manufacturer's instructions, and that clay or soil liners have been installed according to the recommendations of a qualified and experienced engineer or geologist.</p> <p>Verify that liner construction was inspected by an experienced soil technician, engineer, or geologist and that a report was submitted to the health department.</p>
<p>SO.155.4.CO. Waste impoundments are required to operate in accordance with approved plans and the minimum Department standards (6 CCR 1007-2, Section 9.7).</p>	<p>Verify that no incompatible wastes are commingled in the same impoundment.</p> <p>Verify that liner integrity is maintained by prevention of damage through uncontrolled or improper discharge of wastes, vehicle traffic, dredging of settled sludge, skimming of oil, maintenance of spray systems, or other actions.</p> <p>Verify that waste impoundment facilities that are required to obtain a certificate of designation maintain at least one operator on the site during scheduled open hours.</p> <p>Verify that all impoundments operated as evaporative treatment or disposal facilities are maintained as free as possible from oil or other surface scum.</p> <p>(NOTE: Disposal of any waste streams significantly different from those originally approved constitutes a substantial change in operation.)</p>

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SO.155.5.CO. Waste impoundment facilities are required to have monitoring plans and schedules (6 CCR 1007-2, Section 9.8).	<p>Verify that the monitoring plans and schedules are followed throughout the active life and closure period of the facility.</p> <p>Verify that all chemical analyses are submitted to the health department within 30 days after receipt by the operator.</p> <p>Verify that each waste stream entering a waste impoundment facility that is required to obtain a certificate of designation is tested at least annually and that if any waste is found to differ significantly from the original analysis, the health department is notified in writing within 15 working days.</p> <p>Verify that at least one sample of the contents of each Class I or II impoundment is analyzed annually for the original or amended list of characteristic parameters for all waste streams placed in the impoundment.</p> <p>Verify samples from Class III impoundments are taken and analyzed quarterly.</p> <p>Verify that each truckload of waste entering a commercial waste impoundment facility that is required to obtain a certificate of designation is registered with the following information on a single receipt:</p> <ul style="list-style-type: none"> - date and time - receiving impoundment identification - quantity - type of waste - location produced - owner and/or lessee where produced - hauler and truck number - driver's name and signature. <p>Verify that individual load receipts from truckloads of waste entering a commercial waste impoundment facility are maintained for at least 2 yr and that monthly summaries, containing total volume of each waste stream disposed and waste stream identifications, are kept for the life of the facility.</p> <p>Verify that records are maintained to document the following and that the health department is notified within 15 working days after discovery of such liner damage or other event that affects the operation of the facility:</p> <ul style="list-style-type: none"> - damage and repairs to embankments or liners - personal injury accidents - spills - detection of liquids in sumps - fires or explosions. <p>Verify that Class I liner sumps are inspected weekly for the presence of liquids.</p> <p>Verify that monitoring wells for Class I and II impoundments are sampled quarterly and Class III monitoring wells (if required by the Department) are</p>

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<p>SO.155.6.CO. Waste impoundments are required to maintain specific records (6 CCR 1007-2, Section 9.9).</p>	<p>sampled annually.</p> <p>Verify that the condition of impoundment embankments and related piping or structures are inspected frequently.</p> <p>Verify that clay or other soil liner material that has been continuously exposed to impounded wastes is sampled and tested for permeability at intervals of not more than 5 yr.</p> <p>Verify that monthly summary records are maintained until final closure of the facility that document the following:</p> <ul style="list-style-type: none"> - origin of wastes - volume in storage - shipment to other facilities - rate of disposal. <p>Verify that all records, including but not limited to facility inspection logs, daily depth readings, precipitation, waste and monitoring analyses, and load receipts are maintained available for inspection by representatives of the Health Department at all times.</p> <p>Verify that facilities employing evaporative treatment calculate and record the following on a quarterly basis:</p> <ul style="list-style-type: none"> - the total volume of wastes and precipitation added to each impoundment - the maximum volume of evaporation loss - the total change in volume of wastes stored in each impoundment. <p>Verify that if the volume change found according to depth readings is equal to or greater than the change calculated from the addition and evaporation data, the health department is notified in writing within 15 working days.</p> <p>(NOTE: Class III impoundments are exempt from the notification requirements.)</p> <p>(NOTE: Observed volume losses more than 20 percent greater than that predicted from calculations performed indicate probable liner failure. In such instances, no wastes should be added to the impoundment for a minimum 1 week observation period.)</p>
<p>SO.155.7.CO. Waste impoundments are required to follow certain procedures for final closure (6 CCR 1007-2,</p>	<p>Verify that the facility closure plan contains provisions for:</p> <ul style="list-style-type: none"> - testing residual sludge for hazardous characteristics - final disposal of the sludge.

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Section 9.10).	<p>Verify that a report is submitted to the health department at the time of final closure that includes:</p> <ul style="list-style-type: none"> - a summary of the total volume of each waste stream disposed in each impoundment - identifies the person(s) responsible for post closure control of the site.

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<p>SO.160.</p> <p>WASTE TIRES FACILITIES</p> <p>SO.160.1.CO. Scrap tire recycling facilities are required to have a certificate of designation and an operating plan (6 CCR 1007-2, Section 10.1 and 10.2.1) [Revised March 2007].</p> <p>SO.160.2.CO. Scrap tire recycling facilities must submit an annual report (6 CCR 1007-2, Section 10.2.2) [Revised March 2007].</p> <p>SO.160.3.CO. Scrap tire recycling facilities are required to meet operational requirements (6 CCR 1007-2, Section 10.2.3 through 10.2.9, and 10.2.11) [Revised March 2007].</p>	<p>Verify that the scrap tire recycling facility has obtained a certificate of designation prior to accepting scrap tires for recycling.</p> <p>Verify that, applying for a certificate of designation, the operator of a scrap tire disposal facility has a plan approved by the Department and the local governing body.</p> <p>(NOTE: The plan shall describe, in detail, the nature of the activity, the types and capacities of equipment that will be used, all methods of processing and storage, the means to be used to track inventory on a volume or weight basis, and the proposed method and procedures for closure.)</p> <p>Verify that an annual report is submitted to the Department and the local governing body by May 1 of each year.</p> <p>Verify that the report states the amounts of scrap tires received at the facility, processed disposed of on-site, and shipped off-site for the preceding calendar year.</p> <p>Verify that all-weather access roads are maintained in areas of active operation and as necessary to meet the fire control plan.</p> <p>Verify that litter is collected to avoid a fire hazard or nuisance and control the growth of vegetation to minimize potential fuel sources.</p> <p>Verify that adequate fencing, natural barriers, or other security measures extend around the perimeter of the facility.</p> <p>Verify that there are lockable gate(s) at the facility.</p> <p>Verify that prominent signs are posted at the entrance to the facility stating the facility name, hours of operation, wastes accepted, and a phone number for a 24-hour emergency contact.</p> <p>Verify that a copy of the Certificate of Designation resolution or the Certificate of Designation is available for inspection at the site.</p>

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<p>SO.160.4.CO. Scrap tire recycling facilities are required to follow certain notification procedures in the event of a fire or other emergency (6 CCR 1007-2, Section 10.2.10) [Citation Revised March 2007].</p>	<p>Verify that there is a working telephone at the facility.</p> <p>Verify that, during all stages of operation, the facility has an attendant who is responsible for site activities.</p> <p>Verify that the operator has a written vector control plan that is submitted to the Department and the local governing body.</p> <p>(NOTE: If pesticides are used in vector control efforts, they shall be used in accordance with the Pesticide Applicator's Act.)</p> <p>Verify that the fire control plan is written by a qualified professional and submitted to and approved by the local fire control authority.</p> <p>Verify that a copy of the local fire control authority approval is forwarded to the Department.</p> <p>Verify that, in no case are storage piles of whole tires, tire bales, or tire shreds that are stored on open ground, as opposed to storage in open pits or cells, be larger than 50 feet in width and no higher than 15 feet above grade.</p> <p>(NOTE: An approved field measurement system must be employed to facilitate estimates of pile dimensions.)</p> <p>Verify that a minimum of 40 feet is maintained between piles of whole, shredded, or baled tires to allow access for fire fighting equipment.</p> <p>Verify that a minimum distance of 50 feet of clear area is to be maintained from all property lines.</p> <p>Verify that the following notification procedure is in place and followed:</p> <ul style="list-style-type: none"> - immediately notify the local health department and the Colorado Department of Health in the event of a fire or other emergency - submit a report on the emergency to the Department and local governing body having jurisdiction within 2 weeks that describes: <ul style="list-style-type: none"> - the origins of the emergency - actions that have been taken actions that are currently being taken or are planned - results or anticipated results of these actions - an approximate date of resolution of the problems generated by the emergency.

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<p>SO.160.5.CO. Waste motor vehicle tires transport must meet management requirements (6 CCR 1007-2, Section 15.3.1, 15.3.2, and 15.4.1) [Added March 2007].</p>	<p>Verify that waste motor vehicle tires are only transported to the following types of facilities, sites and users in this state for storage and/or disposal:</p> <ul style="list-style-type: none"> - a waste motor vehicle tire storage site - waste motor vehicle tire monofill site - a municipal or privately owned solid waste landfill site that is operating in compliance with the requirements of applicable law - beneficial user of waste motor vehicle tires - waste motor vehicle tire recycling facility - facility that possesses a valid air quality permit if the permit allows for an approved beneficial use of the waste motor vehicle tires and the facility is not used to store waste motor vehicle tires for more than a 90 calendar day period prior to any beneficial use. <p>Verify that waste motor vehicle tires are registered with the Department as a Colorado waste motor vehicle tire hauler.</p>
<p>SO.160.6.CO. Waste motor vehicle tires haulers must meet recordkeeping and reporting requirements (6 CCR 1007-2, Section 15.4.1 and 15.4.2) [Added March 2007].</p>	<p>Verify that waste motor vehicle tire haulers use a manifest, receipts, invoices, bill of ladings, or other recordkeeping forms to document the following:</p> <ul style="list-style-type: none"> - name of the generator of the waste motor vehicle tires - quantity of waste motor vehicle tires in the load either measured by: <ul style="list-style-type: none"> - actual number of waste motor vehicle tires by category (e.g., passenger car/light-duty truck tires, semi-truck tires, etc.) - volume of waste motor vehicle tires measured in cubic feet - weight of waste motor vehicle tires measured in tons - name and Certificate of Registration number of the waste motor vehicle tire hauler - date of transport - destination of waste motor vehicle tires - signature and date of signature of the generator, the waste motor vehicle tire hauler, and the destination facility. <p>Verify that the haulers carry, but not display, a manifest (or other record-keeping form) of each load in the vehicle while hauling the waste motor vehicle tires described on the manifest or record.</p> <p>Verify that the hauler keeps a completed copy of the manifest (or other record-keeping form) of each load for a minimum of 3 years.</p> <p>Verify that the hauler provides a completed copy of the manifest (or other record-keeping form) for each load to the applicable waste motor vehicle tire generator and destination facility within 30 calendar days after the hauler takes possession of the waste motor vehicle tires.</p> <p>Verify that a copy of any manifest (or any other record-keeping form) available to</p>

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	<p>the Department upon request.</p> <p>Verify that the registered waste motor vehicle tire hauler submits an annual report to the Department on the Commercial Waste Motor Vehicle Tire Hauler Annual Report Form (Form TH-3).</p>

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<p>SO.165.</p> <p>YARD WASTE/COMPOSTING</p> <p>SO.165.1.CO. An individual composting facility must meet requirements specific to its classification (6 CCR 1007-2, Part 1.B, Sections 14.1 and 14.6) [Added March 2001; Revised March 2009].</p>	<p>(NOTE: These requirements apply to all owners or operators that compost solid waste. These requirements do not apply to the following composting operations (unless the Department determines that the composting operation described below and otherwise exempt may adversely affect human health and the environment):</p> <ul style="list-style-type: none"> - backyard composting: Type 1 feedstocks and foodwaste only, operations up to 100 cubic yards qualify as Backyard composting - a business that processes yard or landscaping waste, generated through routine operations, into mulch for product distribution (the owner or operator registers as a recycler under Section 8 of these Solid Waste Regulations) - a business that accepts finished compost for bagging or handling - agricultural composting operations where either: <ul style="list-style-type: none"> - compost materials include only agricultural waste generated on-site, subject to the following conditions: <ul style="list-style-type: none"> - the compost is produced at a manufacturing facility registered by the Colorado Department of Agriculture (CDA) - finished compost distributed off-site meets the specifications for compost established by the CDA, or - compost materials include only agricultural waste generated on-site, and imported wood chips and tree branches, subject to the following conditions: <ul style="list-style-type: none"> - importation of wood chips and tree branches only in quantities necessary for effective composting of the agricultural waste generated on-site - storage of imported wood chips and tree branches is limited to nine (9) months - the facility keeps records to support adherence to this time limit - the compost is produced at a manufacturing facility registered by the CDA - finished compost is subject to the specifications for compost established by the CDA - the finished compost is only used on agricultural zoned property, as defined by the local requirements - the composting of biosolids at a wastewater treatment plant provided that the facility has received a permit in accordance with the Department's Biosolids Regulations.) <p>(NOTE: See Appendix 9-2 for classification of composting facilities.)</p> <p>Verify that Class I composting facilities observe any limitations on volume or type of feedstocks specified in the certificate of designation or approved design</p>

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	<p>and operations plan, and that:</p> <ul style="list-style-type: none"> - no person operates a Class I composting facility without having obtained a certificate of designation from the local governing authority - the owner or operator of a Class I composting facility develops and implements the facility's approved waste characterization plan - acceptance of composting materials, different from those originally approved, is done in accordance with the facility's waste characterization plan. <p>Verify that Class I composting facilities observe any limitations on volume or type of feedstocks specified in the certificate of designation or approved design and operations plan, and that:</p> <ul style="list-style-type: none"> - no person operates a Class II composting facility without having obtained a certificate of designation from the local governing authority - the owner or operator of a Class II composting facility only receives Type I or Type II feedstock and only receives those liquid wastes specified in the approved design and operation plan. <p>Verify that Class III facilities satisfy the following provisions in order to avoid being required to obtain a certificate of designation:</p> <ul style="list-style-type: none"> - the owner or operator of a Class III composting facility only receives Type I feedstock and only receives those liquid wastes specified in the approved design and operation plan - the owner or operator of the Class III composting facility limit the total volume of feedstock, bulking agent and in-process material on-site at any given time to 50,000 cubic yards or less (finished qualified product does not count toward this total). <p>Verify that Class IV facilities satisfy the following provisions in order to avoid being required to obtain a certificate of designation:</p> <ul style="list-style-type: none"> - the owner or operator of the Class IV composting facility only composts Type I feedstocks and/or food waste generated on the site - the owner or operator of the Class IV composting facility only imports other compatible materials of a type and quantity necessary for effective composting - the owner or operator of a Class IV composting facility limits the composting activities to a two-acre area - the owner or operator of the Class IV composting facility limit the total volume of feedstock, in-process and bulking material present on the site at any given time to 5,000 cubic yards (finished compost does not count toward this total) <p>(NOTE: Class IV composting facilities are not required to submit a design and operations plan. Instead, the facility operate in accordance with the requirements defined in Section 14.11 of these Regulations (see SO.165.10.CO. through</p>

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<p>SO.165.2.CO. All composting facilities must meet minimum operating standards (6 CCR 1007-2, Part 1, Section 14.3.3) [Added March 2001; Revised March 2010].</p>	<p>SO.165.12.CO. below).</p> <p>Verify that Class V facilities satisfy the following provisions in order to avoid being required to obtain a certificate of designation:</p> <ul style="list-style-type: none"> - the owner or operator of the Class V composting facility conducts composting operations only at the site of waste generation or on contiguous property owned by the generator - the owner or operator of the Class V composting facility composts only agricultural wastes generated on-site and other compatible materials necessary for effective composting in quantities and types as approved by the Department and local governing authority. <p>(NOTE: Class V composting facilities are not required to submit a design and operations plan. Instead, the facility operate in accordance with the requirements defined in Section 14.11 of these Regulations (see SO.165.10.CO. through SO.165.12.CO. below).</p> <p>Verify that an application to amend a facility's certificate of designation to incorporate these requirements is filed by the owner or operator of existing composting facilities with the local governing authority by May 30, 2009.</p> <p>Verify that, if an existing facility does not have a certificate of designation, and one is required, then the owner or operator of facility submits an application for certificate of designation to the local governing authority by May 30, 2009.</p> <p>Verify that, for existing Class III and Class IV facilities not requiring a certificate of designation, the owner or operator submit to the Department and the local governing authority by May 30, 2009 either a revised engineering design and operations plan (in the case of facilities that already have an approved plan) or a new engineering design and operation plan.</p> <p>Verify that, by May 30, 2009, facilities that cannot meet the compliance schedule make a demonstration to the Department showing why this compliance schedule cannot be met, and request an alternate schedule for coming into compliance.</p> <p>Verify that by December 30, 2009, an existing Class V composting facility has onsite a completed Composting Plan.</p> <p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that a composting facility which has not received a specific waiver from ground water monitoring from the Department and the local governing authority, submits a Ground Water Monitoring Plan to the Department for review and approval.</p> <p>Verify that the composting facility does not accept asbestos or asbestos containing</p>

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	<p>materials, infectious waste, hazardous waste, PCB waste or lead-acid batteries.</p> <p>Verify that all stormwater/leachate containment structures are dewatered within 30 calendar days of a storm event so that full runoff storage capacity is maintained and the freeboard is maintained at a minimum of 2 feet at all times.</p> <p>Verify that a composting facility controls:</p> <ul style="list-style-type: none"> - on-site and prevent off-site nuisance conditions such as noise, dust, mud, odors, vectors and windblown debris - access to prevent illegal dumping, prevent unauthorized access and provide for site security both during and after business hours. - surface water flowing onto the site and prevent surface water from leaving the site. <p>Verify that a composting facility erects and maintains signage that identifies the facility name, emergency contact information, and the materials that will and will not be accepted, and that ensures adequate traffic control.</p> <p>Verify that a composting facility develops, maintains for current site conditions, and keeps available at all times, a contingency plan which outlines the corrective or remedial procedures to be taken in the event of:</p> <ul style="list-style-type: none"> - the delivery of unapproved feedstock, bulking material, liquid waste or other waste materials - contamination of surface water or ground water - the occurrence of nuisance conditions either on-site or off-site. <p>Verify that a composting facility implements its approved fire protection plan as required by local fire codes, and keeps the plan current with site conditions and compliant with local fire codes.</p> <p>Verify that a composting facility implements its Department-approved odor management plan as necessary to control on-site and prevent off-site nuisance conditions, including the following:</p> <ul style="list-style-type: none"> - operational procedures to minimize on-site odors and prevent off-site odors (e.g., incorporating feedstocks with bulking material as soon as practical) - operational procedures to mitigate odors when they occur either on-site or off-site (e.g., use of biofilters) - strategies for mitigating off-site odors (e.g., communication with neighbors, responding to complaints within 24 hours). <p>Verify that a composting facility personnel are trained to recognize prohibited materials, take action when nuisance conditions occur, and implement emergency procedures when necessary.</p> <p>Verify that the pathogen reduction methodology is described in the facility's</p>

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<p>SO.165.3.CO. Composting facilities must meet specific recordkeeping and reporting requirements (6 CCR 1007-2, Part 1.B, Section 14.7) [Added March 2001; Revised March 2009].</p>	<p>Design and Operations Plan.</p> <p>Verify that the composting process reduces pathogens.</p> <p>(NOTE: Processes to reduce pathogens include, but are not limited to:</p> <ul style="list-style-type: none"> - windrow composting: the compost material is maintained at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for 15 days or longer. The 15 days do not need to be consecutive. During the period when the compost is maintained at 55 degrees Celsius or higher, there are a minimum of 5 turnings of the windrow - within-vessel composting: the compost material is maintained at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for 3 days - aerated static pile composting process: all in-process compost are covered with sufficient insulating material, and the pile is maintained at a temperature of 55 degrees Celsius (131 degrees Fahrenheit) or higher for a pathogen reduction period of 3 days - alternative methods of compliance approved by the Department based on a demonstration that these methods achieve an equivalent pathogen reduction.) <p>Verify that each composting facility maintains, at a minimum, the following applicable records:</p> <ul style="list-style-type: none"> - type and amount of feedstock(s), liquid waste(s), and bulking material(s) received, processed and remaining on-site - amount of finished compost sold, used on-site or distributed off-site - water quality monitoring data - liquid waste analytical data - feedstock analytical data - compost analytical data - operational monitoring data including time and temperature readings - windrow/pile aeration data - financial assurance documentation - design and operations plan - certificate of designation - waiver demonstration documentation - facility personnel training records. <p>Verify that these records are maintained at the facility, unless otherwise approved by the Department and local governing authority, and made available to the local governing authority, and the Department, upon request during business hours.</p> <p>Verify that each composting facility submits an annual report by May 1st of each year to the Department and local governing authority that provides the total volume of materials received at the facility during the previous calendar year, including by type:</p> <ul style="list-style-type: none"> - the quantity of finished product used on-site, sold, or distributed off- site

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<p>SO.165.4.CO. Class I, Class II, and Class III composting facilities must meet plan development and approval requirements (6 CCR 1007-2, Part 1.B, Section 14.4) [Added March 2001; Revised March 2009].</p>	<p>- the quantity and type of feedstock, liquid waste, and bulking material received, processed, and remaining on-site.</p> <p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that, prior to commencing facility construction, composting or feedstock operations, a Design and Operations Plan is developed by each Class I, Class II or Class III composting facility, and submitted to the Department and the local governing authority for review and approval.</p> <p>Verify that all portions of the facility design and site investigation are reviewed and sealed by a Colorado registered professional engineer or reviewed and signed by a professional geologist, as appropriate.</p>
<p>SO.165.5.CO. Compost sold or distributed for offsite use must meet specific standards (6 CCR 1007-2, Part 1.B, Sections 14.5.1 and 14.5.6) [Added March 2001; Citation Revised March 2009].</p>	<p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that compost that is sold or distributed for offsite use, meets the standards set forth in Appendix 9-1.</p> <p>(NOTE: Compliance with these standards does not relieve any owner or operator from its obligation to comply with any other applicable agency standards, such as those of the Colorado Department of Agriculture.)</p> <p>Verify that compost that exceeds the levels specified in Table 1 is either:</p> <ul style="list-style-type: none"> - reintroduced into the composting process - disposed of at a permitted solid waste disposal facility - otherwise used in a manner approved by the Department and governing body.
<p>SO.165.6.CO. Finished compost must meet sampling requirements (6 CCR 1007-2, Part 1, Sections 14.5.2 and 14.5.3) [Added March 2001; Revised March 2009; Revised March 2010].</p>	<p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that finished compost is sampled and tested once every 10,000 cubic yards of compost produced, or annually, whichever is more frequent.</p> <p>Verify that, if raw or partially composted feedstock, bulking material, or liquid waste is added prior to, or during distribution of finished compost, the compost is reintroduced into the composting process, re-sampled and re-tested prior to commencing or continuing distribution</p>

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SO.165.7.CO. Compost must meet pathogen reduction requirements (6 CCR 1007-2, Part 1.B, Section 14.5.1(B)) [Added March 2001; Revised March 2009].	<p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that composting facilities ensure that:</p> <ul style="list-style-type: none"> - the density of the fecal coliform present in the compost is less than 1000 Most Probable Number per gram of total solids (dry weight basis), or - the density of Salmonella sp. bacteria in the compost is less than three Most Probable Number per 4 gr of total solids (dry weight basis) at the time the compost is to be sold or otherwise distributed for use.
SO.165.8.CO. Compost facilities must meet closure requirements (6 CCR 1007-2, Part 1.B, Section 14.8) [Added March 2001; Revised March 2009].	<p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that each Design and Operations Plan includes a provision for closure of a composting facility.</p> <p>Verify that, if at any time a composting facility ceases operation, including the discontinued receipt, processing and sale of materials for more than 180 days, the owner or operator begins implementation of its Closure Plan.</p> <p>Verify that closure activities do not exceed 90 days in length.</p> <p>Verify that the Closure Plan contains, at a minimum a complete and accurate description and schedule of all steps necessary to achieve closure of the composting facility, including:</p> <ul style="list-style-type: none"> - the removal of all stored raw feedstock, bulking material, and liquid waste to a permitted solid waste facility or a facility where the wastes may be beneficially reused with approval from the Department and local governing authority - the removal of all other wastes on-site, including those wastes generated by closure activities, to a permitted solid waste facility - the removal of all workpad areas - the removal of all storm water control and collection structures, unless specifically approved by the Department and local governing authority to remain on-site - the removal of all tanks, structures and equipment - site restoration including regrading and revegetation - the removal of partially composted feedstocks and bulking material to a permitted solid waste facility or another compost facility with approval from the Department and local governing authority. <p>Verify that, within 14 calendar days of commencing implementation of the Closure Plan, the facility provides written notification to the Department and the local governing authority.</p> <p>Verify that, within 30 calendar days of completing closure activities, the owner/operator of the facility provides written notification to the Department and</p>

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<p>SO.165.9.CO. Compost facilities must meet post-closure care and maintenance requirements (6 CCR 1007-2, Part 1.B, Section 14.9) [Added March 2001; Revised March 2009].</p>	<p>local governing authority to document that all the requirements and conditions of the closure plan have been achieved.</p> <p>Verify that following closure of the facility, a notation is placed on the deed notifying any potential purchaser that the property has been used as a composting facility.</p> <p>(NOTE: See SO.165.1.CO. for applicability.)</p> <p>Verify that the post-closure care and maintenance period is for a minimum of 5 yr and consists of:</p> <ul style="list-style-type: none"> - continued monitoring and sampling of groundwater or surface water. - inspection and maintenance of any cover material or vegetation. <p>Verify that following completion of the post-closure care period the owner or operator submits a certification signed by an independent Colorado registered professional engineer for approval by the Department and the local governing authority, verifying that post-closure care has been completed in accordance with the post-closure plan and has been placed in the operating record.</p>
<p>SO.165.10.CO. Class IV and V compost facilities must meet certain planning and notification requirements (6 CCR 1007-2, Part 1.B, Sections 14.11.1 through 14.11.3) [Added March 2009].</p>	<p>Verify that the owner or operator of a Class IV or V compost facility develops a written composting plan for the facility prior to commencing facility construction, composting or feedstock storage operations.</p> <p>Verify that the plan is maintained at the facility, and available for review upon request by the Department or local governing authority during business hours.</p> <p>Verify that the owner or operator of a Class IV or Class V composting facility notifies the Department in writing of their facility's composting activities, including following information:</p> <ul style="list-style-type: none"> - names, addresses, and telephone numbers of the owner and/or operator, and one or more persons having the authority to take action in the event of an emergency - name of the composting facility, the physical address and legal description, location with respect to the nearest town, and mailing address, if different from physical address. <p>Verify that the plan contains:</p> <ul style="list-style-type: none"> - site maps and plans drawn to a common recognized engineering scale illustrating the facility's surveyed property boundaries, location of processing and storage areas, adjoining properties, roads, fencing, existing and proposed structures, surface water containment and control structures and all proposed

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<p>SO.165.11.CO. Class IV and V compost facilities must meet certain surface water and leachate control requirements (6 CCR 1007-2, Part 1.B, Section 14.11.4) [Added March 2009].</p>	<p>monitoring points for surface water and groundwater quality</p> <ul style="list-style-type: none"> - the maximum facility capacity and a description and volume estimate of the types of materials to be composted, including: feedstocks; liquid waste, bulking material, additives and amendments - an evaluation to determine appropriate mix of feedstocks, bulking material and amendments for efficient composting - a detailed description of the composting operation specifically defining all procedures, activities, waste acceptance practice, pathogen reduction methodology and periods of non-activity - plans for closure and post closure care of the composting facility - an odor management plan that: <ul style="list-style-type: none"> - develops operational procedures to minimize on-site odors and prevent off-site odors. (e.g., incorporating feedstocks with bulking material as soon as practical) - develops operational procedures to mitigate odors when they occur either on-site or off-site (e.g., use of biofilters) - develops strategies for mitigating off-site odors (e.g., communication with neighbors, responding to complaints within 24 hours) - a sampling plan describing procedures for sampling and testing finished compost. <p>Verify that all engineered features of the facility design are reviewed and sealed by a Colorado registered professional engineer or evaluation of potential impacts to groundwater reviewed and signed by a professional geologist, as appropriate.</p> <p>Verify that for Class IV and V compost facilities, surface water control features at the compost facilities are designed, constructed and maintained:</p> <ul style="list-style-type: none"> - to prevent flow onto the facility during peak discharge from a 25-year, 24-hour storm event - to control and collect the on-site run-off water volume resulting from a 25-year, 24-hour storm event - to contain and manage leachate in a storage system - such that all storm water/leachate containment structures are constructed of a minimum of eighteen (18) inches of compacted soil or in-situ earthen material or other low permeability materials (e.g., geomembrane) to achieve a hydraulic conductivity of less than or equal to 1×10^{-6} cm/sec - such that storm water/leachate containment structures are designed and maintained with a minimum 2 feet of freeboard measured from lowest elevation at any given time - whenever the design capacity of impoundment is less than the volume required to store runoff from the designed storm event, the structures are dewatered to a level that restores the required capacity once soils on a land application or the in process composting material site has the water holding capacity to receive the wastewater. <p>(NOTE: A low permeability workpad area may be necessary to manage leachate</p>

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<p>SO.165.12.CO. Class IV and V compost facilities must meet operating requirements (6 CCR 1007-2, Part 1.B, Section 14.11.5) [Added March 2009].</p>	<p>generated from composting operations. Site-specific conditions, operational practices, feedstock, bulking material and liquid waste types will be evaluated to determine the necessity for a workpad.)</p> <p>Verify that no Class IV or V composting facility accepts asbestos or asbestos-containing materials, infectious waste, hazardous waste, PCB waste or lead-acid batteries.</p> <p>Verify that a Class IV or V composting facility controls on-site and prevents off-site nuisance conditions such as noise, dust, mud, odors, vectors and windblown debris.</p> <p>Verify that a Class IV or V composting facility controls access to prevent illegal dumping.</p> <p>Verify that a Class IV or V composting facility erects and maintains signage that identifies the facility name, emergency contact information, and the materials that will and will not be accepted, and that ensures adequate traffic control.</p> <p>Verify that a Class IV or V composting facility develop, maintains for current site conditions, and keeps available at all times, a contingency plan which outlines the corrective or remedial procedures to be taken in the event of:</p> <ul style="list-style-type: none"> - the delivery of unapproved feedstock, bulking material, wetting agent or other waste materials - contamination of surface water or ground water - the occurrence of nuisance conditions either on-site or off-site. <p>Verify that a Class IV or V composting facility is operated under the control of properly trained individuals, trained to recognize prohibited materials, take action when nuisance conditions occur, and implement emergency procedures when necessary.</p> <p>Verify that the owner or operator of a Class IV or V composting facility ensures that the composting process reduces pathogens, and that the pathogen reduction methodology is described in the facility's Composting Plan.</p>
<p>SO.165.13.CO. Compost facilities must meet recordkeeping and reporting requirements (6 CCR 1007-2, Part 1.B, Section 14.11.7) [Added March 2009].</p>	<p>Verify that each composting facility maintains, at a minimum, the following applicable records:</p> <ul style="list-style-type: none"> - type and amount of feedstock(s), liquid waste(s), and bulking material(s) received, processed and remaining on-site - amount of finished compost sold, used on-site or distributed off-site - water quality monitoring data - liquid waste analytical data

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	<ul style="list-style-type: none"> - feedstock analytical data - compost analytical data - operational monitoring data including time and temperature readings - windrow/pile aeration data - financial assurance documentation - design and operations plan - certificate of designation - waiver demonstration documentation - facility personnel training records. <p>Verify that these records are maintained at the facility, unless otherwise approved by the Department and local governing authority, and made available to the local governing authority, and the Department, upon request during business hours.</p> <p>Verify that each composting facility submits an annual report by May 1st of each year to the Department and local governing authority that provides the total volume of materials received at the facility during the previous calendar year, including by type:</p> <ul style="list-style-type: none"> - the quantity of finished product used on-site, sold, or distributed off- site - the quantity and type of feedstock, liquid waste, and bulking material received, processed, and remaining on-site.

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
SO.170. OTHER DISPOSAL UNITS		
SO.170.1.CO. March 2005].	[Moved	(NOTE: Moved to SO.92.1.CO., March 2005.)
SO.170.2.CO. March 2005].	[Moved	(NOTE: Moved to SO.92.2.CO., March 2005.)
SO.170.3.CO. March 2005].	[Moved	(NOTE: Moved to SO.92.3.CO., March 2005.)

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<p>SO.175.</p> <p>OTHER TREATMENT/ PROCESSING UNITS</p> <p>SO.175.1.CO. Solid waste facilities that dispose, receive, or allow water treatment plant sludge to be disposed of on any facility or property must meet specific requirements (6 CCR 1007-2, Sections 12.1 and 12.3).</p> <p>SO.175.2.CO. Solid waste facilities that dispose, receive, or allow water treatment plant sludge to be disposed of on any facility or property must meet specific operational requirements (6 CCR 1007-2, Section 12.2) [Revised July 1997]</p>	<p>Determine whether the solid waste facility meets any of the following exemptions for these regulations:</p> <ul style="list-style-type: none"> - facilities in operation prior to 30 August 1989, unless the Department requires compliance - water treatment plant sludges that are beneficially used under the authority of the Colorado Domestic Sewage Sludge Regulations. <p>Verify that each water treatment plant sludge disposal facility complies with Colorado health laws and the standards, rules, and regulations of the Department and the water quality control commission and with all applicable local zoning laws and ordinances.</p> <p>Verify that facilities do not accept water treatment plant sludges containing any free liquids.</p> <p>Verify that facilities do not accept water treatment sludges having a pH less than 6.0 standard units.</p> <p>Verify that no water treatment plant sludge disposal facility accepts waste of any other kind without approval.</p> <p>(NOTE: Water treatment plant sludge disposal facilities are not required to comply with the requirements concerning open burning, concentrations of explosive gases, or airport hazards.)</p> <p>Verify that if the total alpha activity of the sludge exceeds 40 pCi/g of dry sludge, the sludge operator contacts the Department's Radiation Control Division for further disposal guidance.</p> <p>Verify that a facility operated as a water treatment sludge landfill meets the following requirements:</p> <ul style="list-style-type: none"> - provides compacted fill material - provides adequate cover with suitable material - provides surface drainage prevents water and air pollution - is left in a condition of orderliness and aesthetic appearance capable of blending with the surrounding area when filled - distributes sludge in the smallest area possible - places sludge in the most dense volume practicable.

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<p>SO.175.3.CO. Solid waste-to-energy facilities must be approved (6 CCR 1007-4, Section 1.3) [Revised May</p>	<p>Verify that adequate fencing, natural barriers or other security measures to preclude public entry extend around the entire perimeter of the facility and include a lockable gate.</p> <p>Verify that all groundwater monitoring points are installed in accordance with applicable rules and regulations and that the facility conducts a program of groundwater sampling.</p> <p>Verify that groundwater quality concentrations are monitored regularly, as deemed necessary by the Department on a site specific basis.</p> <p>Verify that the engineering design and operations report includes:</p> <ul style="list-style-type: none"> - the type and quantity of material to be used as: <ul style="list-style-type: none"> - a liner, if required - intermediate cover - final cover, including the material's: <ul style="list-style-type: none"> - compaction density - moisture content specifications - design permeability - maps and plans showing: <ul style="list-style-type: none"> - the location and depth of cut for liners, if required - intermediate and final cover - the location of all monitoring points for surface water and groundwater - construction details for all monitoring points for surface water stations and groundwater monitoring wells - the daily operating hours, frequency of operation including the number of days per mo and the number of mo per yr, daily volume in cubic yards to be received on operating days, and the expected life of the site - the systems of records maintained to document: <ul style="list-style-type: none"> - incoming waste volumes - water quality monitoring results - as-built construction details - variations from approved operating procedures - amounts and sources of water to be used onsite for the control of nuisance problems, construction purposes and personnel use provisions for monitoring groundwater and surface water after closure. <p>Verify that provisions are made for the monitoring of ground water and surface water after closure.</p> <p>Determine whether the solid waste facility operates a solid waste-to-energy facility.</p> <p>Verify that the solid waste-to-energy facility obtains a State Certificate of Approval from the Colorado Department of Public Health and Environment,</p>

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<p>1998; Revised March 2010].</p> <p>SO.175.4.CO. Solid waste-to-energy facilities must meet documentation requirements and permit conditions (6 CCR 1007-4, Section 4.1.1 through 4.1.3) [Revised May 1998].</p> <p>SO.175.5.CO. Solid waste-to-energy facilities must meet waste management requirements (6 CCR 1007-4, Section 4.1.4 through 4.1.7) [Added May 1998].</p>	<p>Hazardous Materials and Waste Management Division.</p> <p>Verify that privately operated solid waste-to-energy facilities located in an unincorporated portion of any county and not under contract to a county and/or municipality obtains a Certificate of Designation from the board of county commissioners.</p> <p>Verify that the Division is notified in writing of the anticipated date of initial start-up of the facility not more than 60 days nor less than 30 days prior to the date and is notified in writing of the actual date of commencement of start-up within 15 days after such date.</p> <p>Verify that the solid waste-to-energy facility is operated in accordance with the operating procedures specified in the approved engineering design and operations report and in the air emissions permit.</p> <p>(NOTE: All solid waste-to-energy incineration facilities must be designed, constructed, operated, and monitored in compliance with all applicable requirements of the Colorado Air Pollution Prevention and Control Act, §§ 25-7-202 to 610, C.R.S., and its implementing regulations promulgated by the Air Quality Control Commission, 5 CCR 1001-1 to 22.)</p> <p>Verify that all monitoring results are reported quarterly to the Department, except that upset conditions, and corrective action taken in response to the upset condition, are reported to the Department as soon as possible, but no later than one business day after the occurrence of the upset condition.</p> <p>Verify that no hazardous waste is received at the solid waste-to-energy facility.</p> <p>Verify that special wastes are incinerated at solid waste-to-energy incineration facilities only with specific approval from the Hazardous Materials and Waste Management Division and the Air Pollution Control Division.</p> <p>Verify that municipal solid waste is stored inside an enclosed structure or building under negative air pressure which provides a minimum of three days storage, considering both volume (cubic yards) and weight (tons) at the installed design capacity of the combustion units.</p> <p>Verify that storage of recovered or rejected, oversized and bulky non combustible material is accordance with the approved engineering design and operations plan for the facility.</p> <p>Verify that all solid waste is handled in such a way as to maximize complete combustion of the waste and minimize any potential for fire, explosion, safety</p>

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<p>SO.175.6.CO. Solid waste-to-energy facilities must meet specific operating requirements (6 CCR 1007-4, Section 4.1.8 through 4.1.15) [Added May 1998].</p>	<p>hazard or adverse public health effects.</p> <p>Verify that adequate visual screening is conducted to ensure removal of hazardous or other unacceptable wastes such as large bulky appliances, asbestos or "special wastes" not approved for incineration at the facility.</p> <p>Verify that operations are conducted in such a way as to prevent litter and nuisance conditions from occurring.</p> <p>Verify that refuse is confined to the tipping area and utilized on a first-in first-out basis.</p> <p>Verify that floors have adequate drainage and be free of standing water.</p> <p>Verify that the facility is inspected daily or more frequently as necessary to detect problems with vectors, litter, fugitive dust, odors or equipment malfunctions, with inspection records maintained and corrective action implemented when problems are detected.</p> <p>Verify that the discharge of quenching and/or scrubber water is in compliance with all state and local water quality control regulations and sewer district requirements.</p> <p>Verify that the alternative waste handling or backup disposal plan as approved in the Engineering Design and Operations report are implemented for periods of facility shutdown.</p> <p>Verify that access to the facility is controlled at all times to preclude unauthorized disposal.</p> <p>Verify that all equipment operators and personnel are trained in the design and operation of the facility.</p> <p>Verify that ash is handled in closed conveyors and containers at the facility and is stored and transported in a manner to prevent leakage and dispersal.</p>
<p>SO.175.7.CO. Solid waste-to-energy facilities must meet specific closure requirements (6 CCR 1007-4, Section 4.1.16 through 4.1.18) [Added May 1998].</p>	<p>Verify that an approved solid waste-to-energy incineration facility is not closed without notifying the Department in writing at least 120 days prior to the closure date.</p> <p>Verify that the facility is closed in accordance with all new applicable regulations in effect at the time of closure and with the closure plan, which if amended, is submitted for review and approval by the Department 120 days prior to closure.</p> <p>Verify that the operator of an approved municipal solid waste-to-energy facility</p>

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	notifies the general public at least 60 days in advance of the proposed closure date by placing signs of suitable size at the entrance of the facility.

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<p>SO.180.</p> <p>CLOSURE OF SOLID WASTE FACILITIES</p> <p>SO.180.1.CO. Solid waste disposal facilities are required to follow closure and postclosure procedures (6 CCR 1007-2, Sections 2.5 and 2.6) [Citation Revised March 2010].</p>	<p>Verify that the solid waste disposal facility prepares a closure plan and a postclosure plan and places each plan in the operating record.</p> <p>Verify that prior to closure the following conditions are met:</p> <ul style="list-style-type: none"> - at least 60 days advance notice given to the Department and the general public - placement of signs of suitable size at the entrance to the site and the facility announcing the closure. <p>Verify that the facility is closed in accordance with its approved closure plan and that precautions are taken to prevent further use of the site and facility for unauthorized disposal.</p> <p>Verify that the solid waste disposal facility begins closure activities of each disposal phase no later than 30 days after final waste grades are reached.</p> <p>Verify that after closure the following conditions are met:</p> <ul style="list-style-type: none"> - the concentration of explosive gas generated does not exceed 5 percent in the air at the site boundary - water pollution does not occur at or beyond the site boundary - nuisance conditions do not exist at or beyond the site boundary - remaining surface water diversion structures control run-on and runoff from the 100-yr, 24-h storm event.

Appendix 9-1

Maximum Constituent Concentration For Compost Sold or Distributed For Offsite Use

(Source: 6 CCR 1007-2, Part 1.B, Section 14.5.3, Table 1) [Added March 2001]

Constituents	Maximum Level (mg/kg dry weight basis)
Inorganics (mg/kg)	
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Nickel	420
Selenium	100
Zinc	2800
Biological	
Fecal coliform	see SO.165.7.CO.
Salmonella	see SO.165.7.CO.

Appendix 9-2

Composting Facility Classifications

(Source: 6 CCR 1007-2, Part 1.B, Section 14.2) [Added March 2009]

Classification of composting facilities is based upon the types of feedstocks received by the facility and the nature of the operation.

14.2.1 Class I Composting Facility

A Class I composting facility is one that:

- (A) Is permitted to receive Types 1, 2 or 3 feedstocks;
- (B) Is not restricted as to the volume of feedstocks, bulking agent or in-process material that may be present on the site at any given time; and
- (C) May accept feedstocks from multiple generators at one location for processing.

14.2.2 Class II Composting Facility

A Class II composting facility is one that:

- (A) Is permitted to receive only Type 1 and Type 2 feedstocks;
- (B) Is not restricted as to the volume of feedstocks, bulking agent or in-process material that may be present on the site at any given time; and
- (C) May accept feedstocks from multiple generators at one location for processing.

14.2.3 Class III Composting Facility

A Class III composting facility is one that:

- (A) Receives only Type 1 feedstocks;
- (B) Is limited to a total volume of 50,000 cubic yards of feedstock, in-process and bulking material on-site at any one time (finished compost does not count toward this total); and
- (C) May accept feedstocks from multiple generators at one location for processing.

14.2.4 Class IV Composting Facility

A Class IV composting facility is one that:

- (A) Receives only Type 1 feedstocks and/or food waste;
- (B) Is limited to a total volume of 5,000 cubic yards of feedstock, in-process and bulking material on-site at any one time (finished qualified product does not count toward this total);
- (C) Limits composting activities to waste generated on-site and to an area two (2) acres in size or less; and
- (D) Fits into one of the following facility categories:
 - (1) A vermicomposting operation that uses Type 1 feedstocks and/or food waste as growth media; or
 - (2) A horticultural or landscaping operation that accumulates and composts only tree and yard waste from their business operations and only imports other compatible material types and only in quantities necessary for effective composting. Composting occurs at the location where tree and yard waste is processed; or
 - (3) Institutions that compost waste at the site where they are generated and only imports other compatible material types and only in quantities necessary for effective composting. Institutions may include, but are not limited to, correctional facilities, schools, parks, community centers and golf courses.

14.2.5 Class V Composting Facility

The Class V composting facility classification is for agricultural composters that do not meet the requirements in Section 14.1.2(D). A Class V composting facility is one that:

- (A) Conducts composting operations at the site of waste generation or on agriculturally zoned property owned by the generator; and
- (B) Uses only agricultural waste generated on site and other compatible material types and only in quantities necessary for effective composting.

SECTION 10
STORAGE TANK MANAGEMENT
Colorado Supplement, March 2010

This section covers the state requirements for Storage Tank Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

The Colorado Department of Labor and Employment, Oil and Inspection Section is the agency responsible for aboveground storage tanks (ASTs) and Underground storage tanks (USTs).

Definitions

- *Aboveground Release* - any release to the surface of the land or to surface water. This includes, but is not limited to, releases from the above-ground portion of an UST system and aboveground releases associated with overfills and transfer operations as the regulated substance moves to or from an UST system (7 CCR 1101-14) [Added March 2009].
- *Ancillary Equipment* - any devices including, but not limited to, such devices as piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from an UST (7 CCR 1101-14) [Added March 2009].
- *AST* - an aboveground storage tank, which is not permanently closed (7 CCR 1101-14) [Added March 2009].
- *AST System* - all ASTs at a facility, all the connected piping and ancillary equipment, all loading facilities, and all containment systems if applicable (7 CCR 1101-14) [Added March 2009].
- *Atmospheric Tank* - is a storage tank that has been designed to operate at pressures from atmospheric through 0.5 psig (760 mm Hg through 780 mm Hg) measured at the top of the tank (7 CCR 1101-14) [Added March 2009].
- *Attenuation* - is the reduction in concentrations of chemical(s) of concern in the environment with distance or time due to processes such as diffusion, dispersion, adsorption, chemical degradation, biodegradation, and other similar chemical, biological, or physical processes (7 CCR 1101-14) [Added March 2009].
- *Belowground Release* - any release to the subsurface of the land and/or to groundwater. This includes, but is not limited to, releases from the belowground portions of an AST or UST system, and belowground releases associated with overfills and transfer operations as the regulated substance moves to or from an AST or UST system (7 CCR 1101-14) [Added March 2009].
- *Beneath the Surface of the Ground* - beneath the ground surface or otherwise covered with earthen materials (7 CCR 1101-14) [Added March 2009].
- *Bulk Plant* - is that portion of a property where liquids are received by tank vessel, pipelines, tank car, or tank vehicle and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle, portable tank, or container. [Note: A bulk plant is normally a wholesale fuel facility where petroleum products are stored prior to resale or redistribution.] (7 CCR 1101-14) [Added March 2009].
- *Chemicals of Concern (COCs)* - are chemical compounds that have been identified for evaluation due to specific risks to human health and/or the environment (7 CCR 1101-14) [Added March 2009].

- *Compatible* - the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered (7 CCR 1101-14) [Added March 2009].
- *Connected Piping* - all piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow. For the purpose of determining how much piping is connected to any individual AST or UST system, the piping that joins two systems should be allocated equally between them (7 CCR 1101-14) [Added March 2009].
- *Corrective Action* - is the sequence of actions that include any or all of the following: interim remedial action, remediation, operation, and maintenance, monitoring of progress, and termination of remedial action (7 CCR 1101-14) [Added March 2009].
- *Corrosion Expert* - a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. Such a person must be accredited or certified as being qualified by the National Association of Corrosion Engineers or be a registered professional engineer who has certification or licensing that includes education and experience in corrosion control of buried or submerged metal piping systems and metal tanks (7 CCR 1101-14) [Added March 2009].
- *Director* - the Director of the Division of Oil and Public Safety of the Colorado Department of Labor and Employment or any designees thereof which may include certain employees of the Division of Oil and Public Safety of the Colorado Department of Labor and Employment or other persons (7 CCR 1101-14) [Added March 2009].
- *Electrical Equipment* - underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable (7 CCR 1101-14) [Added March 2009].
- *Electrolyte* - the soil or liquid adjacent to and in contact with the systems, including the moisture and other chemicals contained in it; the electrically conductive material between the tank and its environment (7 CCR 1101-14) [Added March 2009; Revised March 2010].
- *Existing* - that an underground tank, piping or motor fuel dispensing system is in place when a new installation or replacement of an underground tank, piping, or motor fuel dispensing system begins (7 CCR 1101-14) [Added March 2009].
- *Existing Tank* - an UST system used to contain an accumulation of regulated substances or for which installation commenced before December 22, 1988. Installation is considered to have commenced if:
 1. the owner/operator has obtained all federal, state, and local approvals or permits necessary to begin physical construction of the site or installation of the UST system; and if,
 - 2:
 - a. either a continuous on-site physical construction or installation program has begun; or,
 - b. the owner/operator has entered into contractual obligations, which cannot be cancelled or modified without substantial loss, for physical construction at the site or installation of the UST system to be completed within a reasonable time (7 CCR 1101-14) [Added March 2009].
- *Fire Resistant Tank* - is a single or double walled AST with a U.L. 2085 listing (or with an equivalent listing from a nationally recognized independent laboratory) that has been designed and constructed to provide fire resistive protection from exposure to a high intensity liquid pool fire. The construction shall prevent release of liquid, failure of the primary tank, failure of the supporting structure, and impairment of venting for a period of not less than two hours when tested using the fire exposure environment described in U.L. 2085 or an

equivalent testing procedure for ASTs. An AST can meet the above requirements by adding a coating, if such exists, which would cause the AST to receive a listing as mentioned above. The owner/operator must provide evidence of such listing and proper application of the coating (7 CCR 1101-14) [Added March 2009].

- *Free Product* - refers to a regulated substance that is present as a nonaqueous phase liquid (e.g., liquid not dissolved in water.) (7 CCR 1101-14) [Added March 2009].
- *Gathering Lines* - any pipeline, equipment, facility, or building used in the transportation of oil or gas during oil or gas production or gathering operations (7 CCR 1101-14) [Added March 2009].
- *Good Engineering Practice, Good Engineering Standards, and Nationally Recognized Standard* - in accordance with standards developed by nationally recognized laboratories or associations such as: Underwriters Laboratory (U.L.), American National Standards Institute (ANSI), American Petroleum Institute (API), American Society for Testing and Materials (ASTM), American Society of Mechanical Engineers (ASME), Steel Tank Institute (STI), National Association of Corrosion Engineers (NACE), or the National Fire Protection Association (NFPA) (7 CCR 1101-14) [Added March 2009].
- *Hazardous Substance UST System* - an UST system that contains a hazardous substance defined in section 101(14) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum, and which is not a petroleum UST system (7 CCR 1101-14) [Added March 2009].
- *Heating Oil* - petroleum that is No. 1, No. 2, No. 4--light, No. 4-- heavy, No. 5--light, No. 5--heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces (7 CCR 1101-14) [Added March 2009].
- *Imminent Threat to Human Health or Safety or the Environment* - a condition that creates a substantial probability of harm, when the probability and potential extent of harm make it reasonably necessary to take immediate action to prevent, reduce, or mitigate the actual or potential damages to human health or safety or the environment (7 CCR 1101-14) [Added March 2009].
- *Industrial Property* - is property currently zoned industrial by the local zoning authority (7 CCR 1101-14) [Added March 2009].
- *Infiltration Rate* - is the volume of water traveling through the unsaturated zone and reaching groundwater per unit time (7 CCR 1101-14) [Added March 2009].
- *Installation of a New Motor Fuel Dispenser System* - the installation of a new motor fuel dispenser and the equipment necessary to connect the dispenser to the UST system. It does not mean the installation of a motor fuel dispenser installed separately from the equipment needed to connect the dispenser to the UST system. For purposes of these rules, the equipment necessary to connect the motor fuel dispenser to the UST system may include check valves, shear valves, unburied risers or flexible connectors, or other transitional components that are beneath the dispenser and connect the dispenser to the underground piping (7 CCR 1101-14) [Added March 2009].
- *Liquid Trap* - sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations (including gas production plants), for the purpose of collecting oil, water, and other liquids. These liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream (7 CCR 1101-14) [Added March 2009].

- *Marine Service Station* - is that portion of a property where liquids used as fuels are stored and dispensed from fixed equipment on shore, piers, wharves, or floating docks into the fuel tanks of self-propelled craft, including all facilities used in connection therewith (7 CCR 1101-14) [Added March 2009].
- *Media* - are intervening substances through which something is transmitted or carried (e.g. soil, water, or air) (7 CCR 1101-14) [Added March 2009].
- *Mortgagee* - refers to a mortgagee or the holder of an evidence of debt secured by a mortgage or deed of trust (7 CCR 1101-14) [Added March 2009].
- *Motor Fuel* - petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine (7 CCR 1101-14) [Added March 2009].
- *New UST* - an UST system that will be used to contain an accumulation of regulated substances and for which installation commenced on or after December 22, 1988 (see also "Existing Tank.") (7 CCR 1101-14) [Added March 2009].
- *Noncommercial Purposes* - with respect to motor fuel at farms and residences means not for resale (7 CCR 1101-14) [Added March 2009].
- *Operational Life* - refers to the period beginning when installation of the tank system has commenced until the time the tank system is properly closed (7 CCR 1101-14) [Added March 2009].
- *Overfill* - is a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment (7 CCR 1101-14) [Added March 2009].
- *Owner(s)/Operator(s)* - that the task to which this phrase is attached may be performed by either the owner or the operator. If neither the owner nor the operator performs the task, both shall be in violation of these regulations. Duplication of the task is not required. This definition applies to all persons who meet the statutory definition of "owner" or "operator" other than orphaned or abandoned tank owners (7 CCR 1101-14) [Added March 2009].
- *Person* - an individual, trust, firm, joint stock company, federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body. "Person" also includes a consortium, a joint venture, a commercial entity, and the United States Government (7 CCR 1101-14) [Added March 2009].
- *Petroleum AST System* - an AST system that contains petroleum or a mixture of petroleum with de minimis quantities of other substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, and used oils (7 CCR 1101-14) [Added March 2009].
- *Petroleum UST System* - an UST system that contains petroleum or a mixture of petroleum with de minimis quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils (7 CCR 1101-14) [Added March 2009].
- *Pipe or Piping* - a hollow cylinder or tubular conduit that is constructed of non-earthen materials and in accordance with NFPA or other nationally recognized piping standards for petroleum storage tanks. Piping routinely contains and conveys regulated substances from the underground tank(s) to the dispenser(s) or other end-use equipment. Such piping includes any elbows, couplings, unions, valves, or other in-line fixtures that contain and convey regulated substances from the underground tank(s) to the dispenser(s). This definition does not include vent, vapor recovery, or fill lines not connected to remote fills (7 CCR 1101-14) [Added March 2009].

- *Regulated Substance* - for UST systems has the same meaning as in C.R.S. § 8-20.5-101(13). "Regulated substance" for AST systems means regulated petroleum products (7 CCR 1101-14) [Added March 2009].
- *Release Detection* - determining whether a release of a regulated substance has occurred from the UST or AST system into the environment or into the interstitial space between the UST or AST system and its secondary barrier or secondary containment around it (7 CCR 1101-14) [Added March 2009].
- *Remediation* - actions taken to reduce concentrations of chemicals of concern (including natural attenuation), or prevent migration of chemicals of concern to POEs. Remediation shall be implemented for sites where no further action is not appropriate (7 CCR 1101-14) [Added March 2009].
- *Repair* - to restore a tank or system component that has caused a release of product from the UST or AST system (7 CCR 1101-14) [Added March 2009].
- *Replace* - this term applies to underground storage tanks and piping:
 1. for underground storage tanks - Replace means to remove an existing underground tank and install a new underground tank.
 2. for piping - Replace means to remove and put back in any amount of piping connected to an UST system. The secondary containment requirements for replaced piping is triggered when a minimum of 50 percent or 50 feet (whichever is less) of the total length of piping connected to a single underground tank is replaced. The total length of piping connected to a single underground tank includes the length piping from that tank to the farthest connected dispenser, including piping runs between dispensers connected to that tank (7 CCR 1101-14) [Added March 2009].
- *Residential Property* - is property currently zoned residential by the local zoning authority (7 CCR 1101-14) [Added March 2009].
- *Residential Tank* - is a tank located on property used primarily for dwelling purposes (7 CCR 1101-14) [Added March 2009].
- *Residual Water Content* - is the fraction of water remaining in soil after gravity drainage (7 CCR 1101-14) [Added March 2009].
- *Risk-Based Screening Level(s) (RBSLs)* - are the risk-based corrective action target levels for chemical(s) of concern (7 CCR 1101-14) [Added March 2009].
- *Saturated Zone* - is the subsurface zone which occurs below the water table. The soil pores are filled with water, and the moisture content equals the porosity (7 CCR 1101-14) [Added March 2009].
- *Secondary Containment* - this term applies to AST and UST Systems:
 1. for AST systems secondary containment is containment which prevents any release from an AST system
 2. from reaching land or waters outside of the containment area.
 3. for UST systems secondary containment is a release prevention and release detection system for an underground tank and/or piping. The release prevention part of secondary containment is an underground tank and/or piping having an inner and outer barrier. Between these two barriers is a space for monitoring. The release detection part of secondary containment is a method of monitoring the space between the inner and outer barriers for a leak or release of regulated substances from the underground tank and/or piping (called interstitial monitoring). Interstitial monitoring must meet the release detection requirements in 7 C.C.R. 1101-14 §2-4-4 (g) (7 CCR 1101-14) [Added March 2009].
- *Secondary Containment Tank* - is a shop fabricated AST which includes a steel or reinforced concrete secondary shell that will provide containment of the entire capacity of the inner tank in case of leaks or ruptures

of the inner tank and having means for monitoring the interstitial space for a leak (7 CCR 1101-14) [Added March 2009].

- *Sensitive Environment* - is an area of particular environmental value where regulated petroleum contamination could pose a greater threat than in other less sensitive areas. Sensitive environments include: critical habitat for federally endangered or threatened species, national parks, national monuments, national recreation areas, national wildlife refuges; national forests, campgrounds; recreational areas, game management areas, wildlife management areas, designated federal wilderness areas, wetlands, wild and scenic rivers, state parks, state wildlife refuges, habitat designated for state endangered species, fishery resources, state designated natural areas, wellhead protection areas, classified groundwater areas, and county or municipal parks (7 CCR 1101-14) [Added March 2009].
- *Septic Tank* - is a water-tight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer where the effluent from such receptacle is distributed for disposal through the soil and settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility (7 CCR 1101-14) [Added March 2009].
- *Service Station* - is a place where motor fuels are sold to the general public for cash or credit and are dispensed into the fuel tanks of motor vehicles or approved containers. This does not include unattended cardlock system facilities at bulk plants which only use proprietary cards specific to the cardlock system in question (7 CCR 1101-14) [Added March 2009].
- *Site Classification* - is a qualitative evaluation of a site based on known or readily available information to identify the need for interim remedial actions and further information gathering (7 CCR 1101-14) [Added March 2009].
- *Site-Specific Target Level(s) (SSTLs)* - are the risk-based remedial action target levels for chemical(s) of concern developed for a particular site under the Tier 2 evaluation (7 CCR 1101-14) [Added March 2009].
- *Source Concentration* - is the highest concentration, in soil and/or groundwater and /or vapor, of the chemicals of concern (7 CCR 1101-14) [Added March 2009].
- *Surface Impoundment* - is a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials) that is not an injection well (7 CCR 1101-14) [Added March 2009].
- *Temporary Closure* - the time between when a tank is out of service and is permanently closed (7 CCR 1101-14) [Added March 2009].
- *Underground Area* - an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor (7 CCR 1101-14) [Added March 2009].
- *Under-Dispenser Containment (UDC)* - containment underneath a dispenser that will prevent leaks from the dispenser from reaching soil or groundwater. Such containment must:
 1. be liquid-tight on its sides, bottom, and at any penetrations;
 2. be compatible with the substance conveyed by the piping; and
 3. allow for visual inspection and access to the components in the containment system and/or be monitored (7 CCR 1101-14) [Added March 2009].
- *Upgrade* - the addition or retrofit of some systems (such as cathodic protection, lining, modification of the system piping, or spill and overfill controls, etc.) to improve the ability of an UST or AST system to prevent the release of product (7 CCR 1101-14) [Added March 2009].

- *UST* - an underground storage tank which is not permanently closed (7 CCR 1101-14) [Added March 2009].
- *UST System* - an UST, connected underground piping, underground ancillary equipment, and containment system, if any (7 CCR 1101-14) [Added March 2009].
- *Vault* - an enclosure (other than a secondary containment tank), either above or below-grade, that completely encloses an AST (7 CCR 1101-14) [Added March 2009].
- *Wastewater Treatment Tank* - a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological methods (7 CCR 1101-14) [Added March 2009].

**STORAGE TANK MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

Missing Checklist Items	ST.2.1.CO.
Aboveground Storage Tanks	ST.5.1.CO. through ST.5.26.CO.
Emissions From Bulk Gasoline Terminals	ST.10.1.CO. through ST.10.3.CO.
(NOTE: The state has adopted the Federal Standards of Performance for bulk gasoline terminals (40 CFR 60, Subpart XX, effective 1 July 1998) but not any subsequent amendments.)	
Emissions From POL Storage Vessels	ST.15.1.CO. through ST.15.4.CO.
(NOTE: The state has adopted the Federal Standards of Performance for storage vessels for petroleum liquids constructed after 1 June 1973 and prior to 19 May 1978 (40 CFR 60, Subpart K, effective 1 July 1998) but not any subsequent amendments.)	
(NOTE: The state has adopted the Federal Standards of Performance for storage vessels for petroleum liquids constructed after 18 May 1978 and prior to 23 June 1984 (40 CFR 60, Subpart Ka, effective 1 July 1998) but not any subsequent amendments.)	
Emissions From VOL Storage Vessels	ST.20.1.CO. and ST.20.2.CO.
(NOTE: The state has adopted the Federal Standards of Performance for volatile organic liquid storage vessels (including petroleum liquid storage vessels) for which construction, reconstruction, or modification commenced after 23 July 1984 (40 CFR 60, Subpart Kb, effective 1 July 1998) but not any subsequent amendments.)	
UST State Specific	ST.30.1.CO. through ST.30.10.CO.
New or Updated USTs	ST.35.1.CO. and ST.35.2.CO.
UST Releases	ST.80.1.CO. through ST.80.3.CO.
Changes in Service or Closure of USTs	ST.95.1.CO. through ST.95.8.CO.
Hazardous Waste Storage Tanks	ST.105.1.CO. and ST.105.2.CO.

GUIDANCE FOR COLORADO APPENDIX USERS

REFER TO APPENDIX NUMBERS:

REFER TO APPENDIX TITLES:

10-1

AST Exclusions

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>ST.2.</p> <p>MISSING CHECKLIST ITEMS</p> <p>ST.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
ST.5. ABOVEGROUND STORAGE TANKS ST.5.1.CO. Construction of new ASTs or upgrades of existing ASTs must be approved (7 CCR 1101-14, Section 3-2-1(a), and 3-2-2) [Revised May 1998]. ST.5.2.CO. Petroleum ASTs must be registered with the Inspector of Oils (7 CCR 1101-14, Section 3-2-5) [Citation Revised July 1997]. ST.5.3.CO. Records for petroleum ASTs must be maintained (7 CCR 1101-14, Section 3-4-9) [Citation Revised July 1997].	<p>(NOTE: Petroleum ASTs with a capacity below 660 gal are exempt from the requirements found in ST.5.CO. See Appendix 10-1 for the complete list of petroleum ASTs that are exempt from regulation.)</p> <p>Verify that an application is submitted to and approved by the Inspector of Oils in the following situations:</p> <ul style="list-style-type: none"> - before beginning construction on any new petroleum AST system at a particular facility - before beginning construction on any existing petroleum AST system at a facility that is being upgraded to these standards. <p>Verify that (except in emergencies) if underground piping is replaced or added to the petroleum AST, the Inspector of Oils is notified at least 48 h prior to beginning the air pressure/soap solution test of the piping.</p> <p>Verify that each existing and new regulated petroleum AST is registered within the following time lines:</p> <ul style="list-style-type: none"> - within 60 days after 30 September 1994 if the tanks were not registered previously - within 60 days after the first day on which any new tank, installed after 30 September 1994, is actually used to contain a regulated substance - updated within 60 days after any additional tank construction, tank destruction, or tank system upgrading has been completed at the facility. <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that permits for newly installed ASTs, reinstalled used ASTs, or permits for upgraded ASTs are maintained for 5 yr.</p> <p>Verify that AST registration records or AST facility identification number is maintained until closure.</p> <p>Verify that records of repairs performed within the last 5 yr. are maintained.</p>

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>ST.5.4.CO. General release detection requirements must be met for petroleum ASTs (7 CCR 1101-14, Section 3-5-1) [Citation Revised July 1997].</p>	<p>Verify that visual inspection records of the AST system are kept for 1 yr.</p> <p>Verify that the most recent precision test records for underground piping (if used) are maintained.</p> <p>Verify that records showing the history of each AST in terms of the Class of product stored in each AST in maintained for at least 1 yr.</p> <p>Verify that records to document the AST ullage are properly checked prior to filling and maintained for at least 6 mo.</p> <p>Verify that free product removal records are maintained to document proper operation following any release of product within the last 5 yr.</p> <p>Verify that the SPCC plans (if required) are maintained as long as the plan is required.</p> <p>Verify that records showing the changes in status of ASTs that have been taken out of service or temporarily closed at times then returned to service, are maintain for at least 2 yr.</p> <p>(NOTE: Records need not be kept for ASTs that have been permanently closed.)</p> <p>Verify that records are maintained at the AST site or at a readily available alternative site.</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that ASTs that are not in contact with the ground or any electrolyte that might cause corrosion of the tank are visually inspected at least once per month by operating personnel to detect any leakage from tank seams, connections, and fittings.</p> <p>Verify that any detected leakage is repaired immediately and any release that exceeds 25 gal of petroleum product is reported to the Inspector of Oils.</p> <p>Verify that ASTs including metal supporting structures that are in contact with the soil or that are in contact with an electrolyte that may promote corrosion of the tank are protected from corrosion or tested periodically to prove that they are not seriously corroded.</p> <p>Verify that ASTs that are not cathodically protected are tested within 5 yr after 30 September 1994; and once every 2 yr thereafter by one of the following:</p> <ul style="list-style-type: none"> - an external visual inspection, that includes the bottom of the tank, for corrosion or other visible damage

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>ST.5.5.CO. Secondary containment leak detection requirements must be met for petroleum ASTs (7 CCR 1101-14, Section 3-5-2) [Citation Revised July 1997].</p> <p>ST.5.6.CO. Housekeeping requirements must be met for petroleum ASTs (7 CCR 1101-14, Section 3-5-3) [Citation Revised July 1997].</p> <p>ST.5.7.CO. Collision protection must be provided for petroleum ASTs (7 CCR 1101-14, Section 3-3-3(4)) [Revised May 1998; Citation</p>	<ul style="list-style-type: none"> - a leakage test of any type approved by the Inspector of Oils - an internal inspection for corrosion or other visible damage - comply with some other alternative test for corrosion or leakage as specified by and approved by the Inspector of Oils in the future. <p>Verify that AST system piping which is not in contact with the soil or with an electrolyte that might cause corrosion of the piping, is inspected at least once each month to detect leakage from pipe seams, connections, and fittings.</p> <p>Verify that underground AST piping that is in contact with the soil or an electrolyte and that routinely contains regulated substances is precision tested annually to ensure that it is maintained in a liquid tight condition.</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that secondary containment tanks that are installed without special drainage or diking are visually inspected at least once each month to ensure that there has been no failure of the outer wall of the secondary containment tank.</p> <p>Verify that an interstitial liquid detector or some other positive means of leak detection is installed to detect leaks from the inner wall of the tank.</p> <p>Verify that operation of the leak detector is verified at least monthly and a record of the inspection is maintained.</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that all AST system tank and piping fittings, connections, valves, auxiliary equipment that contains product, secondary containment areas, etc. are maintained free of obstructions that would interfere with visual detection of leaks and spills.</p> <p>Verify that secondary containment areas are maintained free of accumulations of water, leaves, weeds, flammable material, non-UL listed tanks or drums; and anything else that might interfere with the containment purpose of such areas.</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that all tanks where fuel is dispensed into vehicles are protected against vehicular collision by suitable barriers (which may include buildings and open space which the State Inspector of Oils approves in writing).</p>

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<p>Revised March 2007].</p> <p>ST.5.8.CO. Spill and overflow control be provided for petroleum ASTs (7 CCR 1101-14, Section 3-4-2(a)) [Citation Revised May 1998].</p>	<p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>(NOTE: Tanks storing Class IIIB liquids do not require special drainage or diking provisions for fire protection purposes.)</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that operators of ASTs ensure that releases due to spilling or overfilling do not occur.</p> <p>Verify that the operator ensures that the volume available in the AST is greater than the volume of product to be transferred to the tank before the transfer is made; and that the transfer operation is monitored constantly to prevent overfilling and spilling.</p> <p>Verify that for all new ASTs at service stations, and for all secondary containment-type tanks without diking or impounding protection, provisions are made to automatically stop the delivery of liquid to the tank when the liquid level in the tank reaches 95 percent of capacity and to sound an audible alarm when the liquid level in the tank reaches 90 percent of capacity.</p> <p>Verify that delivery vehicle is separated from any AST by at least 25 ft (7.6 m) for class I liquids and by at least 15 ft for Class II and Class III liquids, measured from the nearest fill spout or transfer connection.</p> <p>Verify that tank filling does not begin until the delivery operator has determined tank ullage (available capacity) based on direct liquid level measurement converted to gallons or some equivalent method.</p> <p>(NOTE: Tank ullage (available capacity) and the amount of the product delivered must be entered in the facility records.)</p> <p>Verify that a check valve and a shutoff valve (protected from tampering and physical damage) with a quickconnect coupling or a dry-break valve is installed in the piping at a point where connection and disconnection is made for delivery from the vehicle to any AST.</p> <p>Verify that if the delivery hose is connected directly to the tank, the fill line at the tank is equipped with a tight-fill device for connecting the hose to the tank to prevent or contain any spill at the fill opening during delivery operations; unless the tank capacity is less than 1000 gal and the tank is protected by a secondary containment dike.</p> <p>Verify that the owner/operator reports, investigates, and cleans up any spills and overfills.</p>

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<p>ST.5.9.CO. Remote impounding of impounded liquid for protection of petroleum ASTs must meet specific requirements (7 CCR 1101-14, Section 3-4-2(b)) [Citation Revised May 1998].</p>	<p>Verify that, where protection of adjoining property or waterways is by means of drainage to a remote impounding area, the following requirements are met so that impounded liquid is not held against tanks:</p> <ul style="list-style-type: none"> - a slope of not less than 1 percent away from the AST is provided for at least 50 ft (15 m) toward the impounding area - the impounding area has a net capacity not less than that of the largest AST that can drain into it plus an allowance for precipitation - the route of the drainage system is so located that, if the liquids in the drainage system are ignited, the fire will not seriously expose tanks or adjoining property - the confines of the impounding area are located so that, when filled to capacity, the liquid level will not be closer than 50 ft (15 m) from any property line that can be built upon, or from any tank. <p>(NOTE: See applicability note in ST.5.1.CO.)</p>
<p>ST.5.10.CO. Diking for protection of petroleum ASTs must meet specific requirements (7 CCR 1101-14, Section 3-4-2(c)) [Citation Revised May 1998].</p>	<p>(NOTE: Size and spacing requirements for dikes enclosing existing ASTs may be reduced or waived by the Inspector of Oils if he determines that there are equivalent safety measures at the facility.)</p> <p>Verify that for ASTs installed after 30 September 1994, a slope of not less than 1 percent away from the tank is provided for at least 50 ft (15 m) or to the dike base, whichever is less.</p> <p>Verify that the volumetric capacity of the diked area is not less than the greatest amount of liquid that can be released from the largest AST within the diked area, assuming a full tank (to allow for volume occupied by tanks).</p> <p>(NOTE: The capacity of the diked area enclosing more than one tank will be calculated after deducting the volume of the ASTs, other than the largest AST, below the height of the dike.)</p> <p>Verify that for ASTs installed after 30 September 1994, to permit access, the outside base of the dike at ground level is no closer than 10 ft (3 m) to any property line that is, or can be built upon.</p> <p>Verify that walls of the diked area are of nonpermeable earth, steel, concrete, or solid masonry designed to be liquid tight and to withstand a full hydrostatic head.</p> <p>Verify that for all new dikes, the walls and floor of the diked area are impervious enough to contain the product for at least 72 h.</p> <p>Verify that for ASTs installed after 30 September 1994, earthen walls 3 ft (0.09 m) or more in height have a flat section at the top not less than 2 ft (0.06 m) wide</p>

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<p>ST.5.11.CO. Corrosion protection for new petroleum ASTs must meet specific requirements (7 CCR 1101-14, Section 3-4-3) [Revised July 1997].</p>	<p>(the slope of an earthen wall must be consistent with the angle of repose of the material of which the wall is constructed).</p> <p>(NOTE: Diked areas for tanks containing Class I liquids located in extremely porous soils may require special treatment to prevent seepage of hazardous quantities of liquids to low-lying areas or waterways in case of spills.)</p> <p>Verify that the walls of the diked area are restricted to an average interior height of 6 ft (1.8 m) above interior grade (dikes may be higher than an average of 6 ft (1.8 m) above interior grade where provisions are made for normal access and necessary emergency access to tanks, valves, and other equipment, and safe egress from the diked enclosure).</p> <p>Verify that the minimum distance between tanks and toe of interior dike walls is 5 ft (1.5 m).</p> <p>Verify that drains for diked area are controlled in a manner so as to prevent flammable or combustible liquids from entering natural watercourses, public sewers, or public drains, if their presence would constitute a hazard.</p> <p>Verify that control of drainage is accessible under fire conditions from outside the dike.</p> <p>Verify that the storage of combustible materials, empty or full drums, or barrels is not permitted within the diked area.</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>(NOTE: When ASTs installed after 30 September 1994, are not designed in accordance with the American Petroleum Institute, American Society of Mechanical Engineers, or the Underwriters Laboratories Inc. Standards, or if corrosion is anticipated beyond that provided for in the design formulas used, additional metal thickness or suitable protective coatings or linings will be required to compensate for the corrosion loss expected during the design life of the tank.)</p> <p>Verify that the portions of an AST system including the product pipelines that normally contain petroleum products and are in contact with the soil or with an electrolyte that may cause corrosion of the AST system, tanks and piping are protected by either of the following:</p> <ul style="list-style-type: none"> - a properly engineered, installed and maintained cathodic protection system in accordance with recognized standards of design, such as: <ul style="list-style-type: none"> - National Association of Corrosion Engineers Standard RP-01-69, Control of External Corrosion of Underground or Submerged Metallic Piping Systems

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	<ul style="list-style-type: none"> - National Association of Corrosion Engineers Standard RP-02-85, Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems - approved or listed corrosion-resistant materials or systems, which may include special alloys, fiberglass reinforced plastic, or fiberglass reinforced plastic coatings. <p>(NOTE: Where ASTs and piping are not in contact with soil or with an electrolyte, corrosion protection may consist of an appropriate external coating.)</p> <p>Verify that all corrosion protection systems are operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.</p> <p>(NOTE: Criteria that used to determine that cathodic protection is adequate must be in accordance with a code of practice developed by a nationally recognized association.)</p> <p>Verify that AST systems with impressed current cathodic protection systems are inspected periodically as specified by the equipment manufacturer to ensure that the equipment is running properly.</p> <p>Verify that AST systems using cathodic protection maintain records of the operation of the cathodic protection to demonstrate compliance with the performance standards.</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p>
ST.5.12.CO. Petroleum ASTs must meet compatibility requirements (7 CCR 1101-14, Section 3-4-4) [Citation Revised July 1997].	<p>Verify that all AST systems are made of or lined with materials that are compatible with the substance stored in the AST.</p> <p>(NOTE: Owners/operators storing alcohol blends may use the following codes to comply with the requirements of this section: American Petroleum Institute Publication 1626, <i>Storing and Handling Ethanol and Gasoline-Ethanol Blends at Distribution Terminals and Service Stations</i>; and American Petroleum Institute Publication 1627, <i>Storage and Handling of Gasoline-Methanol/Co-Solvent Blends at Distribution Terminals and Service Stations</i>.)</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p>
ST.5.13.CO. Petroleum ASTs must meet static protection requirements (7	<p>Verify that where an ignitable mixture may be present, all equipment such as tanks, machinery, and piping is bonded or connected to a ground.</p>

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<p>CCR 1101-14, Section 3-4-5) [Citation Revised July 1997].</p>	<p>Verify that bonding facilities for protection against static sparks during the loading of tank vehicles through open domes meet the following standards:</p> <ul style="list-style-type: none"> - is provided where Class I liquids are loaded or where Class II or Class III liquids are loaded into vehicles that may contain vapors from previous cargoes of Class I liquids - bonding facilities consist of a metallic bond wire permanently electrically connected to the fill stem, or to some part of the rack structure in electrical contact with the fill stem - the free end of the bond wire has a clamp or equivalent device for convenient attachment to some metallic part in electrical contact with the cargo tank of the tank vehicle. <p>(NOTE: See applicability note in ST.5.1.CO.)</p>
<p>ST.5.14.CO. Release reporting requirements must be met for petroleum ASTs (7 CCR 1101-14, Section 4-1) [Revised May 1998].</p>	<p>Verify that owners/operators of AST systems report a release or suspected release to the Inspector of Oils within 24 h (303-289-5643) whenever:</p> <ul style="list-style-type: none"> - released regulated substances are discovered by the owner/operator or others at the AST site or in the surrounding area that may possibly be hazardous to the public or the environment, (such as the presence of free product or vapors in soils, basements, sewer and utility lines, and surface, ground, or drinking water) - unusual operating conditions are observed by owners/operators (such as the erratic behavior of product dispensing equipment, the sudden loss of product from the system, failed tightness tests, inconclusive statistical inventory reconciliation, or an unexplained presence of water in the tank), unless system equipment is found to be defective but not leaking, and is immediately repaired or replaced - monitoring results from a release detection method required under these regulations indicate a release may have occurred. unless: <ul style="list-style-type: none"> - the monitoring device is found to be defective, and is immediately repaired, recalibrated or replaced, and additional monitoring does not confirm the initial result, or - in the case of inventory control, a second month of data does not confirm the initial result. <p>(NOTE: If outside normal working hours or on a weekend and emergency assistance is needed, call the emergency response number (303) 756-4455 at the Colorado Department of Public Health and Environment.)</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p>
<p>ST.5.15.CO. AST</p>	<p>Verify that unless corrective action is initiated, owners/operators immediately</p>

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owners/operators must investigate and confirm suspected releases (7 CCR 1101-14, Section 4-3) [Revised May 1998; Citation Revised March 2010].	investigate and confirm all suspected releases of regulated substances requiring reporting within 7 days, using either the following steps or another procedure approved by the State Inspector of Oils: <ul style="list-style-type: none"> - testing (according to the requirements for tightness testing) that determines whether a leak exists in that portion of the tank that routinely contains product, or the attached delivery piping, or both - measuring for the presence of a release where contamination is most likely to be present at the site (in selecting sample types, sample locations, and measurement methods, owners/operators must consider the nature of the stored substance, the type of initial alarm or cause for suspicion, the type of backfill, the depth of groundwater, and other factors appropriate for identifying the presence and source of the release). (NOTE: See applicability note in ST.5.1.CO.)
ST.5.16.CO. [Deleted May 1998].	(NOTE: Equivalent to the Federal.)
ST.5.17.CO. [Deleted May 1998].	(NOTE: This checklist item covered safety issues that are no longer included in this supplement.)
ST.5.18.CO. [Deleted May 1998].	(NOTE: This checklist item covered safety issues that are no longer included in this supplement.)
ST.5.19.CO. [Deleted July 1997].	(NOTE: This checklist item covered safety issues that are no longer included in this supplement.)
ST.5.20.CO. [Deleted May 1998].	(NOTE: This checklist item covered safety issues that are no longer included in this supplement.)
ST.5.21.CO. [Deleted May 1998].	(NOTE: This checklist item covered safety issues that are no longer included in this supplement.)

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<p>ST.5.22.CO. [Deleted May 1998].</p>	<p>(NOTE: This checklist item covered safety issues that are no longer included in this supplement.)</p>
<p>ST.5.23.CO. Repairs to petroleum ASTs must meet specific requirements (7 CCR 1101-14, Section 3-4-6) [Citation Revised July 1997].</p>	<p>Verify that repairs to AST systems are properly conducted in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.</p> <p>(Note: The following codes and standards may be used to comply with this section: National Fire Protection Association Standard 30, <i>Flammable and Combustible Liquids Code</i>; American Petroleum Institute Publication 2200, <i>Repairing Crude Oil, Liquefied Petroleum Gas, and Product Pipelines</i>.)</p> <p>Verify that aboveground metal pipe that has released product is immediately repaired or replaced and appropriately tested.</p> <p>Verify that underground metal pipe sections and fittings connected to an AST that have released product as a result of corrosion or other damage are replaced immediately, and protected from future corrosion.</p> <p>Verify that fiberglass pipes and fittings are repaired in accordance with the equipment manufacturer's specifications.</p> <p>Verify that repaired AST underground piping is volumetrically tested following the completion of the repair.</p> <p>(NOTE: The volumetric test can be made using one of the available commercial precision testing methods or by a standpipe test at 1.5 times operating pressure for small sections of pipe if approved by the Inspector of Oils. New replacement piping runs that have never contained product may be tested by an air pressure/soap bubble test at 1.5 times operating pressure if inspected and approved by the Inspector of Oils or his delegate.)</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p>
<p>ST.5.24.CO. Petroleum ASTs taken out of service must meet specific requirements (7 CCR 1101-14, Section 3-4-7(a) and (b)) [Citation Revised July 1997].</p>	<p>(NOTE: An AST may be taken out of service without notice and without meeting any leak detection requirement for a period of not more than 90 days by simply removing the petroleum product from the tank. The out-of-service period may continue for up to a total of 9 calendar months without further action until the tank is returned to service.)</p> <p>Verify that, before returning an AST that has been out of service for more than 90 days to active service, all components of the AST system that may contain product are carefully, visually inspected for seepage from any and all tank and piping</p>

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<p>ST.5.25.CO. Change-in-service and permanent closure of petroleum ASTs must meet specific requirements (7 CCR 1101-14, Section 3-4-7(c), (d), (e), and Notes) [Citation Revised May 1998].</p>	<p>connections.</p> <p>Verify that temporary closure status is initiated for any AST out of service for more than 9 mo.</p> <p>Verify that temporarily closed tanks are emptied of liquid, rendered vapor free, and safeguarded against trespassing by means of locked gates, fences etc.</p> <p>Verify that reactivation of a temporarily closed AST meets the following requirements:</p> <ul style="list-style-type: none"> - appropriate test of all the connected piping - a careful physical inspection to ensure that the tank and all secondary containment structures are clean, liquid tight, and structurally sound. <p>Verify that ASTs are permanently closed, when temporary closure exceeds 24 mo.</p> <p>(NOTE: The annual registration fee must be paid for ASTs that are out of service or temporarily closed until such time as the owner/operator institutes permanent closure or change-in-service for the AST.)</p> <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>(NOTE: Permanent closure may be initiated by the owner/operator at any time up to 24 calendar months after beginning temporary closure.)</p> <p>Verify that permanently closed ASTs meet the following requirements:</p> <ul style="list-style-type: none"> - empty and clean the tank by removing all liquids and accumulated sludges - clean out and plug both ends of all connected piping - remove all dispensers - render all connected loading facilities completely inoperative - safeguard the tank system from trespassing or remove the tanks from the facility - notify the Inspector of Oils of the permanent closure. <p>(NOTE: Continued use of an AST system to store a nonregulated substance is considered a change-in- service.)</p> <p>Verify that before a change-in-service, the following requirements are met:</p> <ul style="list-style-type: none"> - the AST, connected piping, and any other equipment that previously contained petroleum product is emptied and cleaned - Inspector of Oils is notified in writing of the change of service. <p>(NOTE: All liquids and accumulated sludges must be removed and disposed of</p>

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<p>ST.5.26.CO. Reinstallation of petroleum ASTs must meet specific requirements (7 CCR 1101-14, Section 3-4-8) [Citation Revised July 1997; Citation Revised March 2010].</p>	<p>according to the rules adopted pursuant to CRS 25-18-103 subsection 19, including 6 CCR 1007-2 and 6 CCR 1007-3 (the Solid Waste Disposal Regulations and the Colorado Hazardous Waste Regulations).)</p> <p>(NOTE: These closure rules are the minimum required in Colorado; they do not preempt local fire district rules, local building codes, or local zoning rules. In fire, districts where the Uniform Fire Code is in effect, the fire district may require that out-of-service aboveground tanks be removed or demolished.)</p> <p>(NOTE: The following procedures may be used to comply with these requirements:</p> <ul style="list-style-type: none"> - American Petroleum Institute Publication 2015, <i>Cleaning Petroleum Storage Tanks</i> - American Petroleum Institute Publication 2015A, <i>Lead Hazard Associated with Tank Entry</i> - American Petroleum Institute Publication 2015B, <i>Cleaning Open Top and Floating Roof Tanks</i> - National Institute for Occupational Safety and Health, <i>Criteria for a Recommended Standard -- Working in Confined Space</i> may be used as guidance for conducting safe closures.) <p>(NOTE: See applicability note in ST.5.1.CO.)</p> <p>Verify that a used AST meets the following requirements before it is reinstalled to flammable or combustible liquids service:</p> <ul style="list-style-type: none"> - the aboveground tank itself meets all the fabrication, construction, and performance requirements listed in Section 3-3 (see ST.5.7.CO.) - an installation permit is applied for and received from the Inspector of Oils as with any other installation or upgrade - the AST installation is inspected by the Inspector of Oils or his designee - the AST is thoroughly cleaned inside and outside, examined for pits, cracks, corrosion effects, etc. - any AST sold to a new owner is externally protected as necessary, tested, and certified as structurally sound and capable of performing properly in the proposed service by a tank manufacturer, tank manufacture's qualified representative, or by a Tank Inspector - emergency relief vents or devices for meeting the fire exposure requirements are tested and certified to be in good working order. <p>(NOTE: See applicability note in ST.5.1.CO.)</p>

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<p>ST.10.</p> <p>EMISSIONS/ DISCHARGES FROM BULK GASOLINE TERMINALS</p> <p>ST.10.1.CO. Operators of bulk gasoline terminals, bulk gasoline plants, or gasoline dispensing facilities must meet general requirements for managing volatile organic compounds (VOCs) (5 CCR 1001-9, Section V.B) [Citation Revised March 2009; Citation Revised March 2010].</p> <p>ST.10.2.CO. Gasoline terminals must meet specific equipment and operating requirements to control emissions of VOCs (5 CCR 1001-9, Section VI.C.2) [Citation Revised March 2009; Citation Revised March 2010].</p>	<p>Verify that any bulk gasoline terminal, bulk gasoline plant, or gasoline dispensing facility, is not doing any of the following with VOCs:</p> <ul style="list-style-type: none"> - intentionally spilling - discarding in sewers - storing in open containers - disposing of in any other manner that would result in evaporation. <p>(NOTE: Transfer operations involving petroleum liquid with true vapor pressures at 20 deg C of less than 78 torr (1.5 psia) or greater than 570 torr (11.0 psia) are exempt from the provisions of this section).</p> <p>(NOTE: A terminal is defined as a petroleum liquid storage and distribution facility that has an average daily throughput of more than 76,000 L of gasoline (20,000 gal), which is loaded directly into transport vehicles.)</p> <p>Verify that the terminal is equipped with proper loading equipment and:</p> <ul style="list-style-type: none"> - installs dry-break loading couplings to prevent petroleum liquid loss during uncoupling from vehicles - installs a vapor collection and disposal system which gathers vapor transferred from vehicles being loaded - uses operating procedures to ensure that petroleum liquid cannot be transferred unless the vapor collection equipment is in use - provides for the prevention of overfilling of transport vehicles with loading pump shut-off, set stop meters, or comparable equipment - operates all recovery and disposal equipment at a back pressure less than the pressure relief valve setting of transport vehicles - prevents the release of petroleum liquid on the ground from transport vehicles - maintains and operates final recovery and disposal equipment or devices in the vapor control system (i.e., control devices) so as to emit no more than 80 mg VOCs/L gasoline being loaded.

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<p>ST.10.3.CO. Bulk gasoline plants must meet specific equipment and operating requirements to control emissions of VOCs (5 CCR 1001-9, Section VI.C.3).</p>	<p>(NOTE: A bulk plant is defined as a petroleum liquid storage and distribution facility that has an average daily throughput of 76,000 L of gasoline (20,000 gal) or less, which is loaded directly into transport trucks. As used here, “bulk plant” does not include service stations or separate operations within petroleum liquid distribution facilities that pump only into fuel tanks fueling motor vehicles. Both of these operations are covered in Section ST.15.3.CO.)</p> <p>Verify that an approved vapor balance system is installed to return vapors to the incoming transport trucks during the filling of tanks.</p> <p>Verify that owners and operators of bulk plants:</p> <ul style="list-style-type: none"> - install and operate vapor collection and return equipment on any transport vehicles used to deliver to controlled tanks - install and operate vapor collection and return equipment at loading facilities to collect vapors during loading of tank compartments of outbound transport trucks and return these vapors to the bulk plant storage tanks, using an approved vapor balance system.

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<p>ST.15.</p> <p>EMISSIONS/ DISCHARGES FROM POL STORAGE VESSELS</p> <p>ST.15.1.CO. Owners/operators of POL storage vessels must meet requirements for handling petroleum liquid (5 CCR 1001-9, Section VI.A).</p> <p>ST.15.2.CO. Owners/operators of POL storage vessels with petroleum liquid in tanks of greater than 151,412 L (40,000 gal) must meet specific requirements (5 CCR 1001-9, Section VI.B.2).</p>	<p>Verify that the owner/operator of any POL storage vessel does not permit the building or installation of any rotating pump or compressor handling any type of petroleum liquid unless the pump or compressor is equipped with mechanical seals or other equipment of equal efficiency.</p> <p>Verify that if reciprocating-type pumps and compressors are used, they are equipped with packing glands properly installed, in good working order, and properly maintained so that no detectable emissions occur from the drain recovery systems.</p> <p>(NOTE: Tanks or other containers used to store the following liquids are exempt from the provisions of this section:</p> <ul style="list-style-type: none"> - diesel fuels 1-D, 2-D, and 4-D as defined in ASTM D975-78 - fuel oils #1, #2, #3, #4, and #5, as defined in ASTM D396-78 - gas turbine fuels 1-GT through 4-GT as defined in ASTM D2880-78.) <p>(NOTE: The following underground storage facilities are exempt from the provisions of this section:</p> <ul style="list-style-type: none"> - underground tanks if the annual sum total of the volume of liquid removed from the tank plus the sum of the volume of liquid added to it does not exceed twice the operational volume of the tank (i.e., a maximum of one turnover per year is allowed) - subsurface caverns or porous rock reservoirs - horizontal underground tanks storing JP-4 Jet Fuel.) <p>Verify that fixed-roof tanks used for storage of petroleum liquids that have a true vapor pressure greater than 33.6 torr (0.65 psia) at 20 deg C or, alternatively, a Reid vapor pressure greater than 1.30 lb - (67.2 torr) but not greater than 570 torr (11.0 psia) at 20 deg C, and which are stored in any tank or other container of more than 151,412 L (40,000 gal) meet the following conditions:</p> <ul style="list-style-type: none"> - the tank is equipped with a pontoon-type, or double-deck type, floating roof or an internal floating cover - tank is equipped with a vapor gathering system - records are maintained for at least 2 yr. of the type, average monthly storage temperature, and true vapor pressure of all petroleum liquids stored in tanks not equipped with an internal floating roof or cover or other control.

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<p>ST.15.3.CO. Owners/operators of POL storage vessels with petroleum liquid in tanks of less than 151,412 L (40,000 gal) must meet specific requirements (5 CCR 1001-9, Section VI.B.3).</p>	<p>(NOTE: Tanks or containers used to store liquids with true vapor pressure at 20 deg C of less than 78 torr (1.5 psia) or greater than 570 torr (11.0 psia) at 20 deg C are exempt from the provisions of this section).</p> <p>Verify that storage tanks at a gasoline dispensing facility (service station) or other facility not addressed in ST.10.CO, which receives and stores petroleum liquid, does not allow the transfer of petroleum liquid from any delivery vessel into any tank unless the tank is equipped with a submerged fill pipe and the vapors displaced from the storage tank during filling are processed by a vapor control system, if the tank:</p> <ul style="list-style-type: none"> - has a rated manufacturer's capacity of 2082 L (550 gal) or more and was installed after 7 November 1973, (except for storage tanks below 550 gal capacity used exclusively for agricultural use; however, these must have a submerged fill pipe) - has a rated manufacturer's capacity of 7571 L (2000 gal) or more and was installed before 7 November 1973. <p>Verify that the vapor control system includes one or both of the following:</p> <ul style="list-style-type: none"> - a vapor-tight line from the storage tank to delivery vessel (i.e., an approved control system) - a refrigerator-condensation system or equivalent designed to recover at least 90 percent by weight of the organic compounds in the displaced vapor. <p>Verify that gasoline cannot be transferred into the tank unless the vapor control system is in use.</p>
<p>ST.15.4.CO. Owners/operators of POL storage vessels with fixed-roof tanks equipped with internal floating roofs or covers must meet specific requirements (5 CCR 1001-9, Section VI.B.2.a.ii).</p>	<p>Verify that fixed-roof tanks equipped with an internal floating roof or cover meet the following requirements:</p> <ul style="list-style-type: none"> - the tank is maintained such that there are no visible holes, tears, or other openings in the seal or any seal fabric or materials - all openings, except stub drains, are equipped with covers, lids, or seals such that: <ul style="list-style-type: none"> - the cover, lid, or seal is in the closed position at all times except when in actual use - automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports - rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>ST.20.</p> <p>EMISSIONS/ DISCHARGES FROM VOL STORAGE VESSELS</p> <p>ST.20.1.CO. Owners/operators of VOL storage vessels must meet the requirements for the storing and transferring of VOCs (5 CCR 1001-9, Section III) [Revised March 2009; Citation Revised March 2010].</p> <p>ST.20.2.CO. Owners/operators of VOL storage vessels must comply with the requirements for storing highly volatile organic compounds (5 CCR 1001-9, Section IV).</p>	<p>Verify that the following are maintained and operated so as to prevent unnecessary detectable loss of vapor:</p> <ul style="list-style-type: none"> - storage tank gauging devices - anti-rotation devices - accesses - seals - hatches - roof drainage systems - support structures - pressure relief valves. <p>Verify that use of such devices is limited so as to minimize vapor loss.</p> <p>Verify that all VOCs transferred to any tank or container with a capacity exceeding 212 L (56 gal) are transferred by using submerged or bottom filling equipment.</p> <p>Verify that, in the case of top loading, the fill tube reaches within 6 in. of the bottom of the tank compartment.</p> <p>Verify that, in the case of bottom-fill operations, the inlet is flush with the tank bottom.</p> <p>Verify that highly volatile organic compounds are stored in either of the following ways:</p> <ul style="list-style-type: none"> - in a pressure tank that is at all times capable of maintaining working pressures sufficient to prevent vapor loss to the ambient air - with methods and/or equipment approved by the Division in writing pursuant to the request of the storage facility. <p>(NOTE: Vapor loss is determined visually by presence of frost or condensation at the point of leakage, or using a portable hydrocarbon analyzer. When an analyzer is used, vapor loss means a VOC concentration exceeding 10,000 ppm.)</p>

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ST.30. UST-STATE SPECIFIC ST.30.1.CO. UST systems must meet specific registration requirements (7 CCR 1101-14, Section 2-2-1 through 2-2-6, and 2-2-10) [Citation Revised July 1997; Revised April 2000].	<p>Verify that UST systems are registered with the State Inspector of Oils.</p> <p>Verify that UST systems are registered within 30 days after the first day the system is actually used to contain a regulated substance.</p> <p>Verify that UST registrations are renewed annually prior to expiration dates.</p> <p>(NOTE: UST owner/operators may provide notice for several tanks using one notification form, but UST owner/operators with tanks located at more than one place of operation must file a separate notification form for each separate place of operation.)</p> <p>Verify that an application has been approved by the State Inspector of Oils for the following:</p> <ul style="list-style-type: none"> - construction of any new UST system to store regulated substance - upgrades of any existing UST system to meet the standards described in this regulation. <p>Verify that annual certificate of registration is posted or maintained onsite, so that it is readily available for inspection by OPS inspectors or delivery personnel.</p>
ST.30.2.CO. [Deleted May 1998].	(NOTE: Equivalent to the Federal.)
ST.30.3.CO. [Deleted May 1998].	(NOTE: Equivalent to the Federal.)
ST.30.4.CO. [Deleted May 1998].	(NOTE: Equivalent to the Federal.)
ST.30.5.CO. [Deleted May 1998].	(NOTE: Equivalent to the Federal.)

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<p>ST.30.6.CO. [Deleted May 1998].</p>	<p>(NOTE: Equivalent to the Federal.)</p>
<p>ST.30.7.CO. By January 1, 2010, USTs must be managed by trained operators (7 CCR 1101-14, Section 2-7-6) [Added March 2009; Revised March 2010].</p>	<p>Verify that, by January 1, 2010, owners of UST systems submit a signed statement to Oil and Public Safety (OPS) indicating that the owner understands and is in compliance with all applicable UST requirements, and identifying the designated Class A or B operator(s) for each facility owned.</p> <p>Verify that the owner informs PPS of any change of designated Class A or B operator(s) no later than 30 days after the change.</p> <p>Verify that documentation identifying the designated Class C operators is maintained on site.</p> <p>Verify that designated Class A and B operators are trained and possess a current certificate issued by the International Code Council (ICC) indicating he or she has passed the Colorado UST System Class A or B Operator exam.</p> <p>Verify that designated Class C operators are trained and possess a current certificate issued by a Class A or B operator that developed or conducted the training.</p> <p>Verify that, after January 1, 2010 new operators are trained within the following timeframes:</p> <ul style="list-style-type: none"> - Class A and Class B operators are trained within 30 days after assuming full operation and maintenance responsibilities at the UST system - Class C operators are trained before assuming full responsibility for responding to emergencies. <p>(NOTE: If OPS determines an UST system is out of compliance, the Class A and/or Class B operator must be retrained and recertified within 90 days.)</p>
<p>ST.30.8.CO. Monthly visual UST inspections must be conducted by designated Class A or B operator (7 CCR 1101-14, Section 2-7-8) [Added March 2009].</p>	<p>Verify that the designated Class A or B operator or a delegated designee performs monthly visual inspections of all UST systems for which they are designated.</p> <p>Verify that the results of each inspection are recorded on a monthly inspection checklist.</p> <p>Verify that the monthly visual inspection include the following:</p> <ul style="list-style-type: none"> - inspecting for the presence of any sensor alarm conditions, and responding to

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	<p>alarm conditions appropriately</p> <ul style="list-style-type: none"> - inspecting the integrity of the spill containment or manholes (cracks, holes, bulges etc), and for the presence of regulated substance, water, or debris in spill containers (fill and vapor recovery) - inspecting hanging hardware on dispensers and/or other visible piping for the presence of regulated substance leakage. <p>Verify that the designated operator(s) or delegated designee provides the owner or operator with a copy of each monthly inspection checklist, and alerts the owner or operator of any condition discovered during the monthly visual inspection that may require follow-up actions.</p> <p>Verify that the owner or operator maintains a copy of the monthly inspection checklist and all attachments for the previous twelve months.</p> <p>Verify that the records are maintained on-site for all attended facilities or, if approved by OPS, off-site at a readily available location.</p>
<p>ST.30.9.CO. Annual UST compliance inspections must be conducted by designated Class A or B operator (7 CCR 1101-14, Section 2-7-9) [Added March 2009].</p>	<p>Verify that the designated Class A or B operator(s) performs an annual operational compliance inspection of all UST systems for which they are designated.</p> <p>Verify that the annual operational compliance inspection includes, but is not limited to, the following:</p> <ul style="list-style-type: none"> - compiling and reviewing monthly release detection, visual inspection and corrosion protection records from the prior twelve months - compiling and reviewing the alarm history report or log for the prior 12 months, and checking that each alarm condition was documented and responded to appropriately, including the reporting of suspected or confirmed releases - conducting functionality testing on all line leak detectors, sump sensors and overfill prevention equipment in accordance with manufacturers specifications to ensure proper installation and operation - checking that all required testing and maintenance for the UST system have been completed, and documenting the dates these activities occurred - verifying that all designated Class C operators have been trained in accordance with Sections 2-7-4 and 2-7-5 - completing an Annual Operational Compliance Inspection Report and Certification Form for each facility using forms provided by OPS. <p>Verify that the designated Class A or B operator(s) provides the owner or operator with a copy of the annual operational compliance inspection report, and alerts the owner or operator of any condition discovered during the annual compliance inspection that may require follow-up actions.</p> <p>Verify that the owner or operator submits a copy of the annual operational</p>

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ST.30.10.CO. USTs must be permitted and installed by a certified installer (7 CCR 1101-14, Section 2-2-1, 2-2-4, and 2-2-8 (e)) [Added March 2009].	<p>compliance inspection report and all attachments for the previous 12 months to OPS on an annual basis or within 30 days of an OPS request for records.</p> <p>Verify that an application is submitted to the Director for approval before beginning construction:</p> <ul style="list-style-type: none"> - on any new UST system used to store regulated substances - on an UST system that is being upgraded to the regulatory standards or applicable statutes. <p>(NOTE: The Director will make an inspection of the UST system before completion of construction activities to verify that the construction is proceeding according to plan. The owner/operator shall provide the Director with a 72 hour notice prior to the time of inspection. This inspection will be as detailed as practicable; but does not exempt the owner/operator from certifying that the installation was made according to all the technical requirements of these regulations.)</p> <p>Verify that (effective January 1, 2009) all tanks and piping are properly installed by an OPS certified installer.</p>

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<p>ST.35.</p> <p>NEW OR UPDATED USTs</p> <p>ST.35.1.CO. All new motor fuel USTs must have under-dispenser containment (7 CCR 1101-14, Section 2-2-8 (b)) [Added March 2009].</p> <p>ST.35.2.CO. Secondary containment and interstitial monitoring is required for all new USTs and associated piping (7 CCR 1101-14, Section 2-2-8 (a) and (b)) [Added March 2009].</p>	<p>Verify that all new motor fuel USTs have under-dispenser containment.</p> <p>(NOTE: A motor fuel dispenser system is considered new when:</p> <ul style="list-style-type: none"> - a dispenser is installed at a location where there previously was no dispenser (new UST system or new dispenser location at an existing UST system), or - an existing dispenser is removed and replaced with another dispenser and the equipment used to connect the dispenser to the UST system is replaced at any point below the fire valve (this equipment may include unburied flexible connectors or risers or other transitional components that are beneath the dispenser and connect the dispenser to the piping). - existing dispenser is removed and replaced with another dispenser and the dispenser island has to be modified (break concrete) to install the dispenser.) <p>Under-dispenser containment shall not be required when an existing dispenser is removed and replaced with another dispenser that is not considered a new dispenser.)</p> <p>Verify that all new USTs have secondary containment and interstitial monitoring.</p> <p>(NOTE: If an existing underground tank is replaced, the secondary containment and interstitial monitoring requirements apply only to the replaced underground tank.)</p> <p>Verify that all new piping installations, including piping to remote fills, have secondary containment and interstitial monitoring.</p> <p>Verify that, for replaced piping, secondary containment and interstitial monitoring is required for the total length of piping connected to a single UST whenever more than 50 percent or 50 feet (whichever is less) of the piping connected to that tank is replaced.</p> <p>Verify that of new or replaced piping have containment sumps (UDC, STP or transition) installed on both ends of the secondarily contained pipe for interstitial monitoring.</p> <p>(NOTE: These secondary containment requirements do not apply to repairs meant to restore piping to operating condition. A repair is any activity that does not meet the definition of replace. These secondary containment requirements also do not apply to vent piping, vapor recovery piping, and fill pipes not connected to remote fills.)</p>

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<p>ST.80.</p> <p>UST RELEASES</p> <p>ST.80.1.CO. Sampling for UST release must meet specific requirements (7 CCR 1101-14, Section 5-2 (d) and (e)) [Added March 2009].</p>	<p>Verify that soil samples are collected to identify the presence and source of a release.</p> <p>Verify that, if groundwater is encountered during the investigation it is also sampled.</p> <p>(NOTE: Information regarding soil and groundwater sample collection procedures is presented in the Petroleum Storage Tank Owner/Operator Guidance Document. The document also provides owners/operators with factors that must be considered in sample location selection.)</p> <p>Verify that, if site investigation activities are being performed in conjunction with the removal or permanent closure in place of a petroleum storage system, the owner/operator collects samples from beneath each tank, beneath each dispenser island, beneath areas of piping, and beneath any loading racks.</p> <p>Verify that soil samples are collected from any other location where contamination is suspected based on either visual or olfactory evidence.</p> <p>Verify that the results from the tank closure investigation are submitted to the Director within 30 days of the tank closure whether contamination is encountered or not.</p> <p>Verify that, if site investigation activities are being performed due to the failure of any approved method of leak detection (including tank and/or product piping testing), the owner/operator collects samples from any areas the tests indicate may have been impacted by a release of a regulated product.</p> <p>Verify that samples collected at all sites are analyzed for each individual chemical of concern (COC) including: benzene, toluene, ethylbenzene, xylenes, and methyl-tertiary butyl ether (MTBE); and for total petroleum hydrocarbons (TPH).</p> <p>Verify that the nature of the product is considered when selecting the analyses to be performed for TPH.</p> <p>(NOTE: The Petroleum Storage Tank Owner/Operator Guidance Document contains additional information regarding COCs, the required sampling protocols, and procedures for the sampling and analysis of certain poly-nuclear aromatic hydrocarbons (PAHs) in the event that TPH exceeds the Tier 1 screening level (500 mg/Kg).)</p>

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<p>ST.80.2.CO. A site summary must be prepared and submitted from a limited site assessment after a UST release (7 CCR 1101-14, Section 5-3 (b)) [Added March 2009].</p>	<p>Verify that all information collected about the site, as required under section 5-2 and section 5-3, and as specified on the Site Summary Form (SSF), is reported within 60 days of the release date.</p> <p>(NOTE; The SSF must include a brief outline of the site conditions, the required limited assessment data and a complete Site Classification Checklist, to aid in determining a date for submittal of a Site Characterization Report (SCR). The due date for submission of the SCR will be based on threats to human health and the environment identified in the Site Classification Checklist. Risk-based due dates will require that high risk sites submit an SCR on a shorter timeframe. High risk sites may be assigned interim deadlines for securing access, obtaining permits, and evaluating multiple receptors.)</p> <p>Verify that, in lieu of the SSF, the owner/operator submits a complete SCR, or a No Further Action Request Report (NFAR), as appropriate for the site, within 60 days of the release date.</p> <p>Verify that a quarterly groundwater monitoring program is established and remains ongoing throughout the investigation and remediation phases of the project, unless an alternate schedule is approved by the Director.</p> <p>Verify that monitoring data is submitted on a quarterly basis, unless an alternate schedule is approved by the Director, in the Monitoring and Remediation Report (MRR) format.</p>
<p>ST.80.3.CO. When required correction action plan (CAP) must be implemented (7 CCR 1101-14, Section 5-5 (a), (g), and (h)) [Added March 2009].</p>	<p>(NOTE: After reviewing SCR information or at any other time when deemed necessary by the Director, an owner/operator may be required to develop and submit a CAP.)</p> <p>Verify that, if a CAP is required, the owner/operator submits the CAP, in the format approved by the Director, within 60 days of the request unless an extension is granted by the Director in writing.</p> <p>Verify that, upon approval of the CAP or as directed by the Director, the owner/operator implements the CAP.</p> <p>Verify that the owner/operator monitors, evaluates, and reports the results of implementing the CAP in accordance with a schedule and in a format approved by the Director.</p> <p>Verify that any deviation from the approved CAP, including schedule revisions, is approved by the Director.</p>

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ST.95. CHANGES IN SERVICE OR CLOSURE OF USTS ST.95.1.CO. [Deleted May 1998]. ST.95.2.CO. [Deleted May 1998]. ST.95.3.CO. [Deleted May 1998]. ST.95.4.CO. UST owner/operators that temporary or permanently close a UST system or implement a change-in-service must meet notification requirements (7 CCR 1101-14, Section 2-5-1 and 2-5-2(a)) [Citation Revised July 1997; Revised March 2009]. ST.95.5.CO. [Deleted May	 (NOTE: Equivalent to the Federal.) (NOTE: Equivalent to the Federal.) (NOTE: Equivalent to the Federal.) (NOTE: Unless otherwise directed by the Department of Health, the following requirements do not apply to USTs permanently closed prior to 22 December 1988.) Verify that, at least 10 days before beginning either permanent closure or a change-in-service of a UST system, the UST owner/operator notifies the State Inspector of Oils, unless such action is in response to corrective action. Verify that the Director is notified in writing at least 10 days prior to placing an UST system in temporary closure, and is sent records documenting the prior 12 months of release detection and corrosion protection testing (if applicable) for tanks and lines. Verify that, in lieu of submitting release detection and corrosion protection testing, a precision tightness test is conducted on the tanks and lines and a site assessment is completed, and results are submitted with the temporary closure notification. Verify that the Director is notified in writing no more than 30 days prior to placing a UST back in service, with documentation of passing tightness tests (ullage) for the tanks and lines that was conducted within the past 30 days. (NOTE: Equivalent to the Federal.)

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1998]. ST.95.6.CO. [Deleted May 1998]. ST.95.7.CO. [Deleted May 1998]. ST.95.8.CO. [Deleted May 1998].	 (NOTE: Equivalent to the Federal.) (NOTE: Equivalent to the Federal.) (NOTE: Equivalent to the Federal.)

COMPLIANCE CATEGORY: STORAGE TANK MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>ST.105.</p> <p>HAZARDOUS WASTE STORAGE TANKS</p> <p>ST.105.1.CO. Hazardous waste accumulated in tanks for 90 days must meet documentation requirements (6 CCR 1007-3, Section 262.34 (a) (2)) [Added March 2007].</p> <p>ST.105.2.CO. Use of alternate inspection schedules for hazardous waste storage tanks must be documented (6 CCR 1007-3, Section 265.201(d)) [Added March 2008].</p>	<p>Verify that the date of which each period of accumulation begins is clearly marked and visible for inspection either on or attached to each tank, or a tank log sheet is maintained at the facility and available for inspection.</p> <p>(NOTE: Federal regulations require daily inspections. Colorado regulations allow for an alternate inspection schedule – once weekly – for facilities that meet the conditions specified here.)</p> <p>Verify that generators who accumulate between 100 and 1,000 kg/mo of hazardous waste in tanks or tank systems that have full secondary containment and that either use leak detection equipment to alert facility personnel to leaks, or implement established workplace practices to ensure leaks are promptly identified conducts inspections at least weekly.</p> <p>Verify that the use of the alternate inspection schedule is documented in the facility's operating record, and includes a description of the established workplace practices at the facility.</p>

Appendix 10-1

AST Exclusions

(Source: 7 CCR 1101-14, Section 3-1-1, and CRS 8-20.5-101(2)) [Revised July 1997; Revised April 2000]

All provisions in these regulations apply to all petroleum AST systems unless specifically restricted to a specific system. Aside from meeting these regulatory requirements, all AST systems must meet local fire district rules, zoning rules, and requirements of other authorities having jurisdiction over AST systems. It will be the owner/operator's responsibility to ensure compliance with all such requirements.

In addition to exclusions listed in C.R.S. § 8-20.5-101(2) (see below), the following ASTs or AST systems are excluded from these regulations:

- (1) Any AST whose capacity is greater than 39,999 gallons or less than 660 gallons.
- (2) Any AST system that contains a de minimis concentration of petroleum products.
- (3) Any AST systems containing radioactive material that are regulated under the Atomic Energy Act;
- (4) Any AST system that is part of an emergency generator system at nuclear power generation facilities;
- (5) AST's used to store liquefied petroleum gases that are not liquid at standard temperature and pressure.
- (6) AST's used to store liquids whose fluidity is less than that of 300 penetration asphalt when tested in accordance with ASTM D 5.

Aboveground storage tank (AST) does not include:

- (I) A wastewater treatment tank system that is part of a wastewater treatment facility;
- (II) Equipment or machinery that contains regulated substances for operational purposes;
- (III) Farm and residential tanks;
- (IV) Aboveground storage tanks located at natural gas pipeline facilities that are regulated under state or federal natural gas pipeline acts;
- (V) Aboveground storage tanks associated with natural gas liquids separation, gathering, and production;
- (VI) Aboveground storage tanks associated with crude oil production, storage, and gathering;
- (VII) Aboveground storage tanks at transportation-related facilities regulated by the federal department of transportation;
- (VIII) Aboveground storage tanks used to store heating oil for consumptive use on the premises where stored;
- (IX) Aboveground storage tanks used to store flammable and combustible liquids at mining facilities and construction and earthmoving projects, including gravel pits, quarries, and borrow pits where, in the opinion of the state inspector of oils, tight control by the owner or contractor and isolation from other structures make it unnecessary to meet the requirements of this article;
- (X) Any other aboveground tank excluded by regulation.

SECTION 11

TOXIC SUBSTANCES MANAGEMENT

Colorado Supplement, March 2010

This section covers the state requirements for Toxic Substances Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Abatement* - any measure or set of measures that will contain or permanently eliminate lead-based paint hazards, including (Volume 5, Code of Colorado Regulations, 1001-23, Section II.B (5 CCR 1001-23, Section II.B)) [Added March 1999; Citation Revised March 2010]:
 1. the removal of lead-based paint and lead-contaminated dust;
 2. the permanent containment of lead-based paint;
 3. the encapsulation of lead-based paint;
 4. the replacement or enclosure of lead-painted surfaces or fixtures;
 5. the removal or covering of lead-contaminated soil; and
 6. all preparation, cleanup, disposal, monitoring, and clearance testing activities.
- *Adequately Wet* - sufficiently mix or penetrate with liquid to prevent the release of particulates. If visible emissions are observed coming from asbestos-containing material (ACM), then that material has not been adequately wetted. However, the absence of visible emissions is not sufficient evidence of being adequately wet (5 CCR 1001-10, Section B.I.B.)
- *Air Monitoring* - measuring the fiber content of a known volume of air collected over a known period of time (5 CCR 1001-10, Section B.I.B.) [Citation Revised March 1998].
- *Area of Public Access* - any building, facility, or property, or only that portion thereof, that any member of the general public can enter without limitation or restriction by the owner or lessee under normal business conditions; except that Area of Public Access includes a single family residential dwelling and any facility that charges the general public a fee for admission such as any theater or arena. General Public does not include employees of the entity that owns, leases, or operates such building, facility, or property, or such portion thereof, or any service personnel or vendors connected therewith. A single family residential dwelling shall not be considered an area of public access if the homeowner who resides in the single family residential dwelling that is the homeowner's primary residence requests that the single family residential dwelling not be considered an area of public access (5 CCR 1001-10, Section B.I.B.) [Citation Revised March 1998; Revised February 2004].
- *Asbestos* - asbestiform varieties of chrysotile, (cummingtonite-grunerite), amosite, crocidolite, anthophyllite, tremolite, and actinolite (5 CCR 1001-10, Section B.I.B.) [Citation Revised March 1998].
- *Asbestos Abatement* - any of the following (5 CCR 1001-10, Section B.I.B):
 1. the wrecking or removal of structural members that contain friable ACM
 2. the following practices intended to prevent the escape of asbestos fibers into the atmosphere:
 - a. coating, binding, or resurfacing of walls, ceilings, pipes, or other structures for the purpose of minimizing friable ACM from becoming airborne
 - b. enclosing friable ACM to make it inaccessible
 - c. removal of friable ACM from any pipe, duct, boiler, tank, reactor, furnace, or other structural member
 - d. removing facility components that are asbestos-covered or asbestos-containing.

- *Asbestos-Containing Building Material (ACBM)* - surfacing ACM, thermal system insulation ACM, or miscellaneous ACM that is found in or on interior structural members or other parts of a school or state building (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Asbestos-Containing Material (ACM)* - material containing more than 1 percent asbestos (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Asbestos-Containing Waste Materials (ACWM)* - mill tailings or any waste that contains commercial asbestos and is generated by a source subject to the provisions of this Regulation. This term includes, but is not limited to, asbestos waste from control devices, friable asbestos containing waste material, disposable equipment and clothing, and bags or other similar packaging contaminated with commercial asbestos (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998; Revised February 2004].
- *Asbestos Debris* - pieces of ACM that can be identified by color, texture, or composition, or means dust, if the dust is determined by a certified inspector to be ACM (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Certified* - holding a certificate issued pursuant to this regulation (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Child-Occupied Facility* - a building or portion of a building that (5 CCR 1001-23, Section II.B):
 1. was constructed prior to 1978
 2. is visited regularly by the same child who is under 7 years of age
 3. is visited by such child on two or more days within any week, consisting of the period from Sunday through the following Saturday, with each such visit totaling six or more hours
 5. is visited by such child a total of at least 60 hr in one year.

Child-Occupied Facility includes, but is not limited to, any day-care center, preschool, or kindergarten classroom constructed prior to 1978.
- *Clean Room* - an uncontaminated area or room that is a part of the worker decontamination enclosure system with provisions for storage of workers' street clothes and clean protective equipment (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Commercial Asbestos* - any material containing asbestos that is extracted from ore and has value because of its asbestos content (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Decontaminated Enclosure System* - a series of three (minimum) connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers and equipment (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Disturb* - (5 CCR 1001-23, Section II.B) [Added March 1999]:
 1. In the case of paint, any activity that causes cracking, flaking, chipping, peeling, or separation of the paint from the substrate of a building component. Activities that disturb paint include, but are not limited to, scraping, grinding, sanding, abrasive blasting, drilling, sawing, or the application of chemical strippers; encapsulation and enclosure systems that are applied to surfaces where the paint is not deteriorated typically does not disturb the paint.
 2. In the case of dust or soil, any activity that causes the movement of dust or soil, such as, but not limited to, sweeping, vacuuming, digging and sifting.
- *Division* - the Colorado Air Pollution Control Division (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].

- *Dust-Lead Hazard* - surface dust in a residential dwelling or child-occupied facility that contains a mass-per-area concentration of lead equal to or exceeding 40 µg/ft² on floors or 250 µg/ft² on interior window sills based on wipe samples (5 CCR 1001-23, Section II.B) [Added March 2004].
- *Emergency* - an unexpected situation or sudden occurrence of a serious and urgent nature that demands immediate action and that constitutes a threat to life, health, or that may cause major damage to property. Delay of a contract does not constitute an emergency, nor are demolition projects emergencies (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Encapsulation* - application of a liquid material to ACM that controls the possible release of asbestos fibers from the material either by creating a membrane over the material and binding its components together (penetrating encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant) (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Enclosure* - an airtight, impermeable, permanent barrier around ACM to minimize the release of asbestos fibers into the air (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Fabricating* - any processing (e.g., cutting, sawing, drilling) of a manufactured product that contains commercial asbestos, with the exception of processing at temporary sites (field fabricating) for the construction or restoration of facilities. In case of friction products, fabricating includes bonding, rebonding, grinding, sawing, drilling, or other similar operations performed as part of fabricating (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Facility* - any institutional, commercial, public, industrial, or residential structure, installation, or building (including any structure, installation, or building containing condominiums or individual dwelling units operated as a residential cooperative); any ship; and any active or inactive waste disposal site. For purposes of the definition, any building, structure, or installation that contains a loft used as a dwelling is not considered a residential structure, installation, or building. Any structure, installation or building that was previously subject to this subpart is not excluded, regardless of its current use or function (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Facility Component* - any part of a facility including equipment (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Fixed Object* - a piece of equipment or furniture in the work area that cannot be readily removed from the work area (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Friable* - the material, when dry, may be crumbled, pulverized, or reduced to powder by hand pressure, and includes previously nonfriable material after such previously nonfriable material becomes damaged to the extent to which, when dry, it can be crumbled, pulverized, or reduced to powder by hand pressure (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *GAC* - General Abatement Contractor (5 CCR 1001-10 Section B.I.B) [Added March 2004].
- *HEPA Filtration* - a filtering system capable of trapping and retaining at least 99.97 percent of all monodispersed particles 0.3 micrometers in diameter or larger (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998; Revised February 2004].
- *HEPA Vacuum* - a vacuum system approved by the manufacturer for use in asbestos application equipped with HEPA filtration (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998; Revised February 2004].
- *Inspection* - a surface-by-surface investigation to determine the presence of lead-based paint and the provision of a report explaining the results of the investigation (5 CCR 1001-23, Section II.B) [Added March 1999].

- *Lead-Based Paint* - any paint containing more than six one-hundredths of one per cent by wet weight of lead metal, more than five-tenths of one percent by dry weight of lead metal, or more than one milligram per square centimeter of lead metal (5 CCR 1001-23, Section II.B) [Added March 1999].
- *Lead-Based Paint Activities* - in the case of target housing and child-occupied facilities, inspection, risk assessment, and abatement (5 CCR 1001-23, Section II.B) [Added March 1999].
- *Lead-Based Paint Hazard* - any condition that causes exposure to lead from lead-contaminated dust, lead-contaminated soil, or lead-based paint. Lead-based paint hazard also means paint-lead hazard, dust-lead hazard, or soil-lead hazard (5 CCR 1001-23, Section II.B) [Added March 1999; Revised March 2004].
- *Lead-Contaminated Dust* - surface dust in residential dwellings or child-occupied facilities that contains an area or mass concentration of lead equal to or in excess of 40 ug/ft² on interior floors, 250 ug/ft² on interior window sills, 400 ug/ft² in window troughs, 500 ug/ft² on exterior window sills, and 800 ug/ft² on exterior surfaces (e.g. patios, porches, sidewalks) (5 CCR 1001-23, Section II.B) [Added March 1999; Revised March 2004].
- *Lead-Hazard Screen* - a limited risk assessment activity that involves limited paint and dust sampling (5 CCR 1001-23, Section II.B) [Added March 1999].
- *Living Area* - any area of a residential dwelling used by one or more children under 7 years of age, including, but not limited to, living rooms, kitchen areas, dens, play rooms, and children's bedrooms (5 CCR 1001-23, Section II.B) [Added March 1999].
- *Manufacturing* - the combining of commercial asbestos or, in the case of woven friction products, the combining of textiles containing commercial asbestos with any other material(s), including commercial asbestos, and the processing of this combination into a product. Chlorine production is considered a part of manufacturing (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Mini Enclosure* - any containment barrier small enough to restrict entry to the asbestos work area to no more than two workers, constructed around an area where small-scale, short-duration asbestos abatement is to be performed (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Movable Objects* - pieces of equipment or furniture in the work area that can be readily removed from the work area (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Nonfriable* - material that, when dry, may not be crumbled, pulverized, or reduced to powder by hand pressure (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Particulate Asbestos Material* - finely divided particulates of asbestos or material containing asbestos (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Person* - any individual, any public or private corporation, partnership, association, firm, trust, or estate, the state or any department, institution, or agency thereof, any municipal corporation, county, city and county, or other political subdivision of the state, or any other legal entity that is recognized by law as the subject of rights and duties (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Regulated Asbestos-Containing Material* -
 1. friable asbestos material
 2. Category I nonfriable ACM that has become friable
 3. Category I nonfriable ACM that will be or has been subjected to sanding, grinding, cutting, or abrading
 4. Category II nonfriable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by that force expected to act on the material in the course of demolition or renovation operations regulated by this regulation (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].

- *Removal* - the taking out or the stripping of ACBM from a damaged area, a functional space, or a homogeneous area in a building (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998; Revised February 2004].
- *Renovation* - altering in any way one or more facility components. Operations in which load-supporting structural members are wrecked or taken out are excluded. Examples of renovation work include replacement or repair of mechanical ventilation systems, pipes, ceilings, walls, flooring (including floor tiles), and insulating materials (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Residential Dwelling* - (5 CCR 1001-23, Section II.B) [Added March 1999]:
 1. a detached single family dwelling unit, including attached structures such as porches and stoops; or
 2. a single family dwelling unit in a structure that contains more than one separate residential dwelling unit, which is used or occupied, or intended to be used or occupied, in whole or in part, as the home or residence of one or more persons.
- *Response Action* - a method, including removal, encapsulation, enclosure, repair, operations, and maintenance, that protects human health and the environment from friable ACM (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Risk Assessment* - (5 CCR 1001-23, Section II.B) [Added March 1999]:
 1. an on-site investigation to determine the existence, nature, severity, and location of lead-based paint hazards, and
 2. the provision of a report by the individual or the firm conducting the risk assessment, explaining the results of the investigation and options for reducing lead-based paint hazards.
- *Roadways* - surfaces on which vehicles travel. This term includes public and private highways, roads, streets, parking areas, and driveways (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Soil Lead Hazard* - bare soil on residential real property or on the property of a child-occupied facility that contains total lead equal to or exceeding 400 parts per million ($\mu\text{g/g}$) in a play area or average of 1,200 parts per million of bare soil in the rest of the yard based on soil samples (5 CCR 1001-23, Section II.B) [Added March 2004].
- *Strip* - to take off regulated ACM from any part of a facility or facility components (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].
- *Structural Member* - any load-supporting member of a facility, such as beams and load supporting walls; or any non load-supporting member, such as ceilings and non load-supporting walls (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998; Revised February 2004].
- *Target Housing* - housing constructed prior to 1978 other than any zero-bedroom dwelling or any housing for the elderly or a person with a disability; except that *target housing* includes housing for the elderly or a person with a disability if a child under 7 years of age resides or is expected to reside in the housing (5 CCR 1001-23, Section II.B) [Added March 1999].
- *Trigger Levels* - amounts of material as follows (5 CCR 1001-10 Section B.I.B) [Added March 2004]:
 - a. With regard to single-family residential dwellings, the trigger levels are 50 linear feet on pipes, 32 square feet on other surfaces, or the volume equivalent of a 55-gallon drum.
 - b. With regard to all areas other than single-family residential dwellings, the trigger levels are 260 linear feet on pipes, 160 square feet on other surfaces, or the volume equivalent of a 55-gallon drum.
- *Visible Emissions* - any discharge into the atmosphere or deposit onto the ground which is visually detectable without the aid of instruments coming from regulated asbestos containing material or asbestos containing waste (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].

- *Wet Cleaning* - eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils that have been dampened with water and afterwards thoroughly decontaminated (5 CCR 1001-10, Section B.I.B) [Citation Revised March 1998].

**TOXIC SUBSTANCES MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

PCB Management	
PCB Missing Checklist Items	T1.2.1.CO.
PCB Disposal	T1.50.1.CO.
Asbestos Management	
Asbestos Missing Checklist Items	T2.2.1.CO.
Renovation and Demolition of Asbestos Containing Structures	T2.5.1.CO. through T2.5.14.CO.
Asbestos Personnel Training/Certification	T2.10.1.CO. and T2.10.2.CO.
Asbestos Disposal	T2.15.1.CO. through T2.15.9.CO.
Asbestos in Schools	[Deleted]
Radon Management	
Radon Missing Checklist Items	T3.2.1.CO.
Refer to the U.S. TEAM Guide and the DOD Supplement Components for DOD and service-specific requirements.	
Lead-Based Paint	T4.1.1.CO. through T4.1.5.CO.
LBP Missing Checklist Items	T4.2.1.CO.

**TOXIC SUBSTANCES MANAGEMENT
GUIDANCE FOR COLORADO APPENDIX USERS**

REFER TO APPENDIX NUMBERS:

REFER TO APPENDIX TITLES:

11-1
11-2

Work Practice Restrictions and Prohibitions for Lead Abatements
Asbestos Abatement Sequence

COMPLIANCE CATEGORY: TOXIC SUBSTANCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
PCB MANAGEMENT T1.2. Missing Checklist Items T1.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T1.50.</p> <p>PCB DISPOSAL</p> <p>T1.50.1.CO. Solid waste disposal sites must have a program for detection and prevention of PCB disposal (6 CCR 1007-2, Part 1, Section 2.1.2(B)) [Added May 1998; Citation Revised March 2010].</p>	<p>Verify that solid waste disposal sites implement a program for the detection and prevention of the disposal of PCB wastes which includes the following:</p> <ul style="list-style-type: none"> - random inspections of incoming loads - records of any inspections - training of facility personnel to recognize these wastes - notification of the Department if these wastes are discovered at the site.

COMPLIANCE CATEGORY: TOXIC SUBSTANCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
ASBESTOS MANAGEMENT T2.2. Missing Checklist Items T2.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.5.</p> <p>RENOVATION AND DEMOLITION OF ASBESTOS CONTAINING STRUCTURES</p> <p>T2.5.1.CO. Asbestos abatement operations in any amount greater than the trigger levels must meet specific notification requirements (5 CCR 1001-10, Section B.III.E) [Revised February 2004].</p> <p>T2.5.2.CO. Asbestos abatement exceeding trigger levels in public access areas must have a permit (5 CCR 1001-10, Section B.III.G) [Revised February 2004].</p>	<p>Verify that the Division receives written notification at least 10 days prior to the start of an abatement project.</p> <p>Verify that the Division is notified of an emergency action immediately by fax or telephone and a written notification form is submitted at the start of the next regular state business day.</p> <p>(NOTE: If the emergency occurs during nonbusiness hours, the Division must be notified by telephone on the morning of the next regular State business day.)</p> <p>Verify that, any GAC contracting with an owner of a single-family residential dwelling to abate asbestos-containing materials in excess of the trigger levels in that owner's primary residence, provides a completed copy of the "Single-Family Residential Dwelling Area of Public Access Opt-Out Form" to the Division indicating whether or not the homeowner has decided to opt the single-family residential dwelling out of the area of public access.</p> <p>(NOTE: If the homeowner chooses to opt-out, then the single-family residential dwelling will cease being an area of public access: 1) at the end of the project; 2) when the homeowner no longer owns the single-family residential dwelling; or, 3) if the dwelling ceases being the homeowner's primary residence, whichever is first.)</p> <p>Verify that the asbestos abatement operations in public access areas are done in accordance with a valid permit.</p> <p>Verify that for any project modifications, the permittee notifies the Department and the local county health department (as designated by the Division) in writing.</p> <p>Verify that the permittee notifies the Division by the end of the next regular State business day following the modification.</p> <p>Verify that the original of the Division-issued permit is posted in a visible location at the work site at all times.</p> <p>Verify that the project manager signs the original copies of the permit, if the project required a project manager.</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.5.3.CO. Asbestos abatement operations must meet a specific abatement sequence (5 CCR 1001-10, Section B.III.H) [Revised March 2004].</p> <p>T2.5.4.CO. [Deleted May 1998].</p> <p>T2.5.5.CO. Removal of asbestos-contaminated soil must meet specific requirements (5 CCR 1001-10, Section B.III.S.5) [Citation Revised February 2004].</p> <p>T2.5.6.CO. Asbestos spill response requirements must be met in response to a release of any asbestos fiber (5 CCR 1001-10, Section B.III.T) [Revised March 2004].</p>	<p>(NOTE: A project manager must be used on all asbestos abatement projects in public and commercial buildings in which the amount of friable asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 ft² on other surfaces.)</p> <p>Verify that the abatement sequence listed in Appendix 11-2 is followed for all asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.</p> <p>Determine whether the installation has any soil areas containing visible, friable asbestos with greater than 1 percent friable asbestos content in the top 1 in. of soil.</p> <p>Verify that all gross, visible surface debris is removed.</p> <p>Verify that either the top 2 in. of soil is removed or the area is sealed with concrete or another impenetrable material.</p> <p>Verify that in the event of an asbestos spill involving less than the trigger levels the following procedures are implemented:</p> <ul style="list-style-type: none"> - restrict entry into the area and post warning signs to prevent entry of unauthorized persons - shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building - use polyethylene sheeting to seal all openings between the contaminated and uncontaminated areas - HEPA vacuum or steam clean the carpets, draperies, and other nonclothing fabrics in the contaminated area or discard all contaminated materials - launder or discard contaminated clothing - HEPA vacuum or wet clean all nonfabric surfaces in the contaminated area - conduct air monitoring - conduct final clearance air monitoring. <p>Verify that in the event of an asbestos spill involving greater than the trigger levels, the following procedures are implemented:</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.5.7.CO. Asbestos abatement operations must meet air monitoring requirements (5 CCR 1001-10, Section B.III.U) [Revised March 2004].</p>	<ul style="list-style-type: none"> - restrict entry into the area and post warning signs to prevent entry of unauthorized persons - shut off or temporarily modify the air handling system to prevent the distribution of fibers to other areas in the building - immediately contact the Division by telephone, submit a notification and apply for permit - any cleanup or asbestos abatement that must occur after the immediate danger has passed, is supervised by a certified person - use polyethylene sheeting to seal all openings between the contaminated and uncontaminated areas - establish negative air pressure within the contaminated area - HEPA vacuum or steam clean the carpets, draperies, and other nonclothing fabrics in the contaminated area or discard these materials - launder or discard contaminated clothing - HEPA vacuum or wet clean all surfaces in the contaminated area. - discard all contaminated materials - conduct final clearance air monitoring. <p>Verify that a specialist monitors the air at the conclusion of the asbestos abatement to determine whether all of the dust and debris has been properly removed.</p> <p>Verify that the air Monitoring Specialist is independent of the GAC.</p> <p>Verify that maximum allowable asbestos levels do not exceed the following limits in any area of public access:</p> <ul style="list-style-type: none"> - if phase contrast microscopy method of analysis is used, 0.01 fibers/cm³ of air (10,000 fibers/m³ of air) - if transmission electron microscopy method of analysis is used, 70 structures/mm².
<p>T2.5.8.CO. ACWM must be handled in a specific manner (5 CCR 1001-10, Section B. III.R) [Revised March 2004].</p>	<p>(NOTE: Asbestos waste handling requirements are equivalent to Federal requirements with the following exceptions.)</p> <p>Verify that following an abatement project, temporary storage of ACWM prior to disposal is limited to 500, 55-gal barrels and that the storage does not exceed 6 mo following the completion of the abatement action.</p> <p>Verify that storage is permitted only on property owned or operated by the GAC or building owner.</p> <p>Verify that no visible emissions are discharged during the collection, processing, packaging, transportation, or deposition of any ACWM generated by the source.</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.5.9.CO. [Deleted March 2004]</p>	<p>Verify that ACWM is disposed of in accordance with Colorado Department of Health, Hazardous Materials and Waste Management Division regulations.</p> <p>Verify that all asbestos-containing waste water to 5 micrometers is filtered prior to discharging to a sanitary sewer.</p>
<p>T2.5.10.CO. [Deleted March 2004].</p>	<p>(NOTE: Regulation revised.)</p>
<p>T2.5.11.CO. [Deleted March 2004].</p>	<p>(NOTE: Regulation revised.)</p>
<p>T2.5.12.CO. Friable ACM or ACM that will be made friable must be removed prior to any demolition activities (5 CCR 1001-10, Section B.III.W) [Revised March 2004].</p>	<p>Verify that, during wrecking operations, that portion of the facility that contains friable asbestos-containing material is kept adequately wet commencing from prior to the demolition through delivery of the demolition debris to a landfill that will accept friable ACM.</p> <p>(NOTE: The Division may suspend any abatement work practice requirement, the implementation of which may endanger personnel who will be removing asbestos and grant a variance.)</p>
<p>T2.5.13.CO. Public and commercial buildings must be inspected prior to any renovation or demolition if the activity may exceed trigger levels for asbestos (5 CCR 1001-10, Section B.III.A) [Added March 2004; Revised March 2010].</p>	<p>Verify that, prior to any renovation or demolition which may disturb greater than the trigger levels of material identified as a suspect asbestos-containing material pursuant to the EPA "Green Book", Managing Asbestos in Place, Appendix G (1990), the facility component(s) to be affected by the renovation or demolition is inspected to determine if abatement is required.</p> <p>(NOTE: Buildings, or those portions thereof, that were constructed after October 12, 1988 are exempt from this inspection requirement if an architect or project engineer responsible for the construction of the building, or a state certified Inspector, signs a statement that no ACM was specified as a building material in any construction document for the building or no ACM was used as a building material in the building. However, the Division recommends that all buildings be inspected prior to any renovation or demolition activities, regardless of the date of</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.5.14.CO. Project designs are required for any asbestos abatement in which the amount of asbestos - containing material to be abated exceed 1,000 linear feet on pipes or 3,000 ft2 on other surfaces (5 CCR 1001-10, Section B.III.C) [Added March 2004].</p>	<p>construction.)</p> <p>Verify that a written project design is developed by a Project Designer prior to the start of any asbestos abatement in an area of public access of a non-school building, in which the amount of asbestos-containing material to be abated exceeds 1,000 linear feet on pipes, or 3,000 square feet on other surfaces.</p> <p>(NOTE: For any asbestos abatement in a school building, a written project design is required when the amount of friable asbestos-containing material to be abated exceeds 3 linear feet on pipes, or 3 square feet on other surfaces.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.10.</p> <p>ASBESTOS PERSONNEL TRAINING</p> <p>T2.10.1.CO. Personnel that perform inspections prior to any renovation or demolition in any building which may trigger asbestos levels must be certified building inspectors (5 CCR 1001-10, Section B.III.A.1.a).[Revised March 2004].</p> <p>T2.10.2.CO. Personnel performing asbestos abatement must meet specific training requirements (5 CCR 1001-10, Section B.II.B).</p>	<p>Verify that certified Building Inspectors perform inspections prior to any renovation or demolition in any public and commercial building which may disturb greater than the trigger levels of material identified as a suspect asbestos-containing material pursuant to the EPA "Green Book", Managing Asbestos in Place, Appendix G (1990).</p> <p>Verify that at least one individual conducting asbestos abatement is a state-certified supervisor.</p> <p>Verify that all asbestos abatement workers have completed at least a three-day, Division approved, training course.</p> <p>Verify that all workers receive an annual 1-day refresher course on asbestos abatement procedures.</p>

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T2.15. ASBESTOS DISPOSAL T2.15.1.CO. Friable asbestos material must meet management requirements (5 CCR 1001-10, Section B.III.A) [Citation Revised March 2009; Revised March 2010]. T2.15.2.CO. The disposal of asbestos waste must not cause or contribute to the occurrence of visible emissions (6 CCR 1007-2, Section 5.1.3). T2.15.3.CO. Asbestos waste disposal areas that receive only nonfriable asbestos waste must meet specific requirements (6 CCR 1007-2, Section 5.2). T2.15.4.CO. Waste disposal sites that accept friable asbestos waste must have a certificate of designation (6 CCR 1007-2, Sections 5.3.1 and 5.3.2). T2.15.5.CO. Friable asbestos waste disposal sites must meet	<p>Verify that any asbestos-containing material that is friable or will be made friable during demolition activities in any area of public access or non-public access area is removed prior to demolition.</p> <p>Verify that if the asbestos-containing material becomes friable during renovation or demolition, the material is removed as an asbestos waste.</p> <p>(NOTE: Materials that may contain asbestos include:</p> <ul style="list-style-type: none"> - resilient floor tile and sheet vinyl flooring - asbestos cement products including transite roofing shingles or transite siding - asphaltic materials including tar impregnated roofing felts, asphalt-roofing tiles, roofing asphalts, roofing mastics, and asphaltic pipeline coatings. <p>Verify that the disposal of asbestos waste does not cause or contribute to visible emissions.</p> <p>Verify that nonfriable asbestos waste in disposal areas is covered with at least 6 in. of nonasbestos material prior to compaction.</p> <p>Verify that the placement, compaction, and handling of nonfriable asbestos waste is done in a manner that minimizes any increase in friability of the waste, especially at any exposed edges.</p> <p>Determine whether the Federal facility operates a waste disposal site that accepts friable asbestos waste.</p> <p>Verify that the Federal facility has a certificate of designation, amended certificate of designation or statement of Departmental approval to accept asbestos waste.</p> <p>Verify that the friable waste disposal site meets the following requirements:</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>specific requirements (6 CCR 1007-2, Sections 5.3.3 through 5.3.8).</p>	<ul style="list-style-type: none"> - no friable asbestos wastes are disposed of within 25 ft of the property line - all activities involved in the disposal of the waste are conducted in a manner that prevents the rupture or opening of any bags, wrappers, or containers holding friable asbestos waste and prevents the airborne emission of asbestos - warning signs are installed and maintained at the perimeter of the site and are displayed as follows: <ul style="list-style-type: none"> - one at each entrance to the site, and one or more at each side of the fenced area based on the length of the side, at a rate of one every 300 linear feet - warning signs are posted in a manner that the legend can be easily read - each sign is a minimum of 20 in. by 14 in. - the sign reads as follows: <div style="text-align: center;"> ASBESTOS WASTE DISPOSAL SITE DO NOT CREATE DUST BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH </div> - a fence is placed around the entire site - asbestos waste is accepted only if it is sealed in at least two 6-mil, leak-proof plastic bags or in wrappers or containers deemed equivalent by the Department - the outermost layer of any containers are labeled with the following: <div style="text-align: center;"> DANGER CONTAINS ASBESTOS FIBERS AVOID CREATING DUST CANCER AND LUNG DISEASE HAZARD or CAUTION CONTAINS ASBESTOS AVOID OPENING OR BREAKING CONTAINER BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH </div> - asbestos waste is covered with at least 6 in. of nonasbestos cover material before compaction - rigid containers of asbestos waste are not compacted after placed in the disposal trench and are covered within 72 hours of receipt or termination of storage.
<p>T2.15.6.CO. Friable asbestos waste received for disposal in containers other than rigid containers must meet specific disposal requirements (6 CCR 1007-2, Sections 5.3.9 and 5.3.10(2)) [Revised March 2004].</p>	<p>Verify that the following requirements are met:</p> <ul style="list-style-type: none"> - trenches for disposal of the waste are prepared before the arrival of the waste - an adequate supply of nonasbestos material and equipment is available to cover the waste upon arrival - all unrelated landfill activities are halted within 100 yd during the placement, covering, and compaction of the asbestos waste - all nonessential personnel are not within 100 yd during the placement, covering, and compaction of the waste - wind speeds do not exceed 20 mi/h (mph) and wind gusts do not exceed 30

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>T2.15.7.CO. [Deleted March 2010]</p> <p>T2.15.8.CO. Asbestos waste disposal sites must meet specific record-keeping requirements (6 CCR 1007-2, Section 5.3.10(A)) [Citation Revised March 2010].</p> <p>T2.15.9.CO. Asbestos waste stored prior to burial at a waste disposal site must meet specific requirements (6 CCR 1007-2, Section 5.4) [Revised March 2010].</p>	<p>mph at the waste disposal area</p> <ul style="list-style-type: none"> - water is available to place on the asbestos waste if any containers are breached - trenches for disposal are at least 100 ft away from any other area being used for the disposal of other types of waste. <p>Verify that, if within a period of 30 days or less, an asbestos waste disposal area receives 250 yd³ of friable asbestos waste for disposal, the following conditions are met:</p> <ul style="list-style-type: none"> - no additional friable asbestos waste is received unless it is inherently structurally rigid or is packaged in structurally rigid containers - all friable asbestos waste received at the area is disposed of in a location separated from any other location used for activities other than those related to asbestos waste disposal. <p>(NOTE: 6 CCR 1007-2 revised.)</p> <p>Verify that the following records are maintained:</p> <ul style="list-style-type: none"> - the date and amount of each receipt of asbestos waste - the location of each asbestos waste disposal area within the boundaries of the solid waste disposal site - the quantity of asbestos waste at each asbestos waste disposal area - the exact location and depth of the interred asbestos waste. <p>Verify that the following requirements are met:</p> <ul style="list-style-type: none"> - the waste is stored only in rigid container and in segregated locations used solely for the purpose of such storage where asbestos waste packages can be handled, stored and maintained without being opened or disturbed - the waste is stored no longer than 20 calendar days prior to burial - warning signs are posted on each side of the storage area. <p>(NOTE: The warning signs must comply with the sign requirements listed for asbestos waste disposal sites, except the first line must read ASBESTOS WASTE STORAGE.)</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
T2.20. ASBESTOS IN SCHOOLS T2.20.1.CO. [Deleted March 2004].	 (NOTE: Equivalent to Federal requirements.)

COMPLIANCE CATEGORY: TOXIC SUBSTANCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
RADON GAS T3.2. Missing Checklist Items T3.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCE MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>during preparation and post-abatement (5 CCR 1001-23, Part A, Section V.A.3) [Added March 1999; Revised March 2004; Citation Revised March 2010].</p> <p>T4.1.4.CO. Lead-based paint abatements must meet notification requirements (5 CCR 1001-23, Part A, Section V.A.5) [Added March 1999; Citation Revised March 2010].</p> <p>T4.1.5.CO. Lead-based paint abatements must meet work practice requirements (5 CCR 1001-23, Part A, Section V.B) [Added March 2004; Citation Revised March 2010].</p>	<p>(NOTE: See applicability notes in T4.1.1.CO.)</p> <p>Verify that notification of the commencement of lead-based paint abatement in or to a pre-1978 residential dwelling or child-occupied facility is provided on a Division-approved form and postmarked or hand-delivered to the Division, the local county health department and the local building department a minimum of 10 working days prior to the commencement of abatement activities.</p> <p>(NOTE: The 10 working day notification may be waived by the Division if one or more of the following conditions exist:</p> <ul style="list-style-type: none"> - a child with an elevated blood lead level resides within the pre-1978 residential dwelling or child-occupied facility or regularly visits the child-occupied facility where the abatement will occur - the Division determines that an imminent danger to health exists - the Division determines that an unavoidable hardship would result.) <p>(NOTE: See applicability notes in T4.1.1.CO.)</p> <p>(NOTE: The State includes work practices that are not required by the federal act, and that are, in some cases, otherwise more stringent than the federal requirements. The additional work practices include the prohibition of uncontained hydroblasting and high-pressure washing, the prohibition of dry sanding, the restriction of chemical stripping, and the establishment of containment barriers (5 CCR 1001-23 Section VII.A.5.b))</p> <p>Verify that the work practices detailed in Appendix 11-1 are followed during lead-based paint abatement projects.</p> <p>(NOTE: See applicability notes in T4.1.1.CO.)</p>

COMPLIANCE CATEGORY: TOXIC SUBSTANCES MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
LEAD-BASED PAINT T4.2. Missing Checklist Items T4.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

Appendix 11-1

Work Practice Restrictions and Prohibitions for Lead Abatements

(5 CCR 1001-23, Part A, Section V(B) through (I)) [Added March 2004; Citation Revised March 2008] **xx**

The work practices listed below shall be restricted as follows during an abatement.

- V.B.1. Open-flame burning or torching of lead-based paint is prohibited.
- V.B.2. Machine sanding or grinding or abrasive blasting or sandblasting or drilling or cutting of lead-based paint is prohibited unless used with High Efficiency Particulate Air (HEPA) exhaust control which continually captures all particulate from the surface being abated.
- V.B.3. Dry scraping of lead-based paint is permitted only in conjunction with heat guns or around electrical outlets.
- V.B.4. Operating a heat gun on lead-based paint is permitted only at temperatures below 1100 degrees Fahrenheit.
- V.B.5. Uncontained hydroblasting or high-pressure water washing is prohibited unless the point of operation is completely self-contained within a local shroud and the water is captured within the shroud.
- V.B.6. Chemical stripping methods shall only be used to remove lead-based paint from highly decorative or ornate components or surfaces that are otherwise difficult to abate by any other method.
- V.B.7. Dry, hand sanding is prohibited.

V.C. Interior Abatement Requirements (excluding window abatements)

V.C.1. The following containment system shall be used for all interior abatement projects except window abatements:

- V.C.1.a. A containment level I-1, I-2 or I-3 shall be used in those work areas if the amount of lead-based paint or lead-contaminated dust that will be disturbed per room, hallway, or stairwell is less than 2 square feet.
- V.C.1.b. A containment level I-2 or I-3 shall be used in those work areas if the amount of lead-based paint or lead-contaminated dust that will be disturbed per room, hallway, or stairwell is 2 or more square feet.
- V.C.1.c. Regardless of the requirements in Sections V.C.1.a. and b. of this Regulation No. 19, an interior containment level I-3, as described in Section V.C.4. of this Regulation No. 19, shall be used to contain the work area if either one of the following conditions apply:
 - V.C.1.c.(i) if any amount of floor surface that is painted with lead-based paint, or was at one time painted with lead-based paint, is machine sanded; or
 - V.C.1.c.(ii) if any amount of lead-based paint is abated by abrasive blasting.

V.C.2. Interior containment level I-1 shall consist of the following elements:

V.C.2.a. Warning Signs. At a minimum, warning signs shall be posted at all entryways to the work area. The warning signs shall, in a language understandable by all occupants, state the following warning:

WARNING
LEAD ABATEMENT WORK AREA
HAZARDOUS LEAD DUST
POISON
DO NOT ENTER

- V.C.2.b. Warning Barriers. A physical barrier (furniture, wood planking) shall be placed around the work area perimeter so as to prevent inadvertent access by children.
- V.C.2.c. Ventilation System Shutdown. Vents that are within 5 feet from the surface being abated must be sealed with 6-mil thickness polyethylene sheeting to prevent contaminated air from leaving the work area.
- V.C.2.d. Protection of Objects. Furniture and other objects within 5 feet in all directions of the surface to be abated shall be moved outside the room, hallway, or stairwell. Objects or furniture that cannot be moved shall be sealed with a minimum of one layer of 6-mil polyethylene sheeting.
- V.C.2.e. Floor Protection. At a minimum, one layer of 6-mil thickness polyethylene sheeting or greater shall be sealed to the floor at least 5 feet beyond the perimeter of the surface being abated in all directions, so

as to prevent contamination of the floor. Floors shall be pre-cleaned of debris as required in Section V.H.1. (Pre-cleaning) of this Regulation No. 19 prior to sealing polyethylene sheeting on the floor.

V.C.2.f. Cleanup. All surfaces and floors extending 5 feet in all directions from the abated surface, and all adjacent areas used as a pathway to the work area, shall be cleaned by HEPA vacuuming, wet washing, and HEPA vacuuming.

V.C.3. Interior containment level I-2 shall consist of the following elements:

V.C.3.a. Warning Signs. At a minimum, warning signs shall be posted at all entryways to the work area. The warning signs shall, in a language understandable by all occupants, at least state the following warning:

WARNING
LEAD ABATEMENT WORK AREA
HAZARDOUS LEAD DUST
POISON
DO NOT ENTER

V.C.3.b. Ventilation System Shutdown. The ventilation system supplying air to the work area shall be turned off or otherwise prevented from supplying air to the work area until clearance has been achieved. All registers, vents and openings in the work area shall be sealed with 6-mil thickness polyethylene sheeting.

V.C.3.c. Barriers. All openings to the work area shall be sealed off from the rest of the building with a minimum of 1 layer of 6-mil thickness polyethylene sheeting to prevent air flow out of the work area.

V.C.3.d. Work Area Egress. Entry into and egress out of the work area shall be through an airlock that, at a minimum, shall consist of a single chamber with self-closing triple flaps or "Z-flaps" on either side of the chamber. Disposable clothing and footwear shall be worn by all persons entering the containment area. Disposable clothing and footwear used inside the containment shall be deposited in this airlock chamber prior to personnel exiting containment.

V.C.3.e. Protection of Objects. Furniture and other objects shall be moved outside the room, hallway, or stairwell. Objects or furniture that cannot be moved shall be sealed with a minimum of one layer of 6-mil polyethylene sheeting.

V.C.3.f. Floor Protection. The entire floor within the work area shall be sealed with a minimum of 2 layers of 6-mil thickness polyethylene sheeting. The polyethylene sheeting shall be installed such that removal of the top most layer of polyethylene sheeting will not cause the underlying polyethylene sheeting to lose its seal. Floors shall be pre-cleaned of debris as required in Section V.H.1. (Pre-cleaning) of this Regulation No. 19 prior to sealing polyethylene sheeting on the floor.

V.C.3.g. Cleanup. All surfaces in the work area and all adjacent areas used as a pathway to the work area shall be cleaned by HEPA vacuuming, wet washing, and HEPA vacuuming.

V.C.4. Interior containment level I-3 shall consist of the following elements:

V.C.4.a. Containment. At a minimum, all the level I-2 containment requirements as described in Section V.C.3. of this Regulation No. 19.

V.C.4.b. Work Area Egress. Entry into and egress out of the work area shall be through a 3-stage decontamination unit with a shower equipped with hot and cold water that is adjustable inside the shower unit. Each airlock in the decontamination unit shall be constructed with self-closing triple flaps or "Z-flaps" separating each individual chamber. Persons entering the abatement work area prior to final clearance shall don disposable clothing and footwear. Prior to exiting the containment, personnel shall dispose of the suits in the chamber adjacent to the work area and shower.

V.C.4.c. Negative Pressure/Airflow. The containment shall have a negative pressure differential of at least -0.02 inches water column between the work area and the clean area inside the pre-1978 residential dwelling or child-occupied facility. The pressure differential shall be continuously recorded with a recording manometer. The air within the work area shall be exchanged at a minimum rate of 10 times per hour and exhausted to the exterior of the building. Air flow shall always be from the outside of containment to within, as verified by smoke testing. Smoke tubes shall be on site at all times during abatement.

V.D. Exterior Abatement Requirements

V.D.1. Exterior Abatement Project Restrictions

All exterior abatement projects subject to this Regulation No. 19, except for abatement work areas sufficiently contained with an exterior containment level of X-2 or X-3, shall comply with the following restrictions.

V.D.1.a. Exterior abatement, except for cleanup to prevent the spread of lead contamination, shall not proceed if the local wind gusts are, or are expected to be, greater than 20 miles per hour.

V.D.1.b. Exterior abatement shall stop and cleanup shall occur before rain begins.

V.D.2. Containment Requirements

V.D.2.a. The following containment system shall be used for all exterior abatement projects except window and soil abatements:

V.D.2.a.(i) An exterior containment level X-1, X-2, or X-3, as described in this Section V.D.2. (Containment Requirements) of this Regulation No. 19, shall be used if the amount of lead-based paint that will be disturbed is less than 20 square feet.

V.D.2.a.(ii) An exterior containment level X-2 or X-3, as described in this Section V.D.2. (Containment Requirements) of this Regulation No. 19, shall be used if the amount of lead-based paint that will be disturbed is 20 or more square feet.

V.D.2.a.(iii) Regardless of the requirements in Sections V.D.2.a.(i) and (ii) of this Regulation No. 19, an exterior containment level X-3 as described in Section V.D.2.d. of this Regulation No. 19 shall be used if either one of the following conditions apply:

V.D.2.a.(iii)(A) any amount of floor surface (e.g. patio, step, deck) that is painted with lead-based paint, or was at one time painted with lead-based paint, is power sanded; or

V.D.2.a.(iii)(B) any amount of lead-based paint is abated by abrasive blasting.

V.D.2.b. Exterior containment level X-1 shall consist of the following elements:

V.D.2.b.(i) Warning Signs. Post warning signs on the building and at a 20-foot perimeter around the building (or less if distance to the next building or sidewalk is less than 20 feet). The warning signs shall, in a language understandable by all occupants, state the following warning:

WARNING LEAD ABATEMENT WORK AREA
HAZARDOUS LEAD DUST POISON
DO NOT ENTER

V.D.2.b.(ii) Warning Barriers. Erect temporary fencing or barrier tape at a 20-foot perimeter around working surfaces (or less if distance to the next building or sidewalk is less than 20 feet). If an entryway to the building is within 10 feet of the working surfaces, an alternate entryway shall be provided. At least one lead-safe entryway shall be made available to occupants at all times, unless the occupants have been relocated until final clearance has been achieved.

V.D.2.b.(iii) Barriers. All windows within 20 feet of the working surfaces shall be closed or sealed, including windows in adjacent structures.

V.D.2.b.(iv) Protection of Objects. All movable objects shall be removed to a minimum of 20 feet away from abatement surfaces in all directions. Objects that cannot be removed shall be sealed with a minimum of 1 layer of 6-mil thickness polyethylene sheeting.

V.D.2.b.(v) Ground Protection. At a minimum, the ground, including decks, driveways, and porches, extending 10 feet beyond the perimeter of the abatement surfaces in all directions shall be covered with one layer of 6-mil thickness polyethylene sheeting. The edges of the polyethylene sheeting shall be sealed to the building such that no gaps between the polyethylene sheeting and the building exist. The edges of the polyethylene sheeting shall be raised to create a basin to contain contaminated runoff. The polyethylene sheeting shall be weighted down or otherwise secured to prevent movement. The ground shall be pre-cleaned of visible debris as required in Section V.H.1. (Pre-cleaning) of this Regulation No. 19 prior to sealing it with polyethylene sheeting.

V.D.2.b.(vi) Cleanup. All debris and ground polyethylene sheeting must be removed from the work area before leaving the site each night. Polyethylene sheeting shall be cleaned and removed. Paint chips in the soil shall be HEPA vacuumed and properly disposed.

V.D.2.c. Exterior containment level X-2 shall consist of the following elements:

V.D.2.c.(i) Warning Signs. Post visible warning signs on the building and on the outside of the containment barriers. The warning signs shall, in a language understandable by all occupants, state the following warning:

WARNING
LEAD ABATEMENT WORK AREA
HAZARDOUS LEAD DUST
POISON
DO NOT ENTER

V.D.2.c.(ii) Barriers. All openings to the work area shall be sealed off with a minimum of 1 layer of 6-mil thickness polyethylene sheeting to prevent air flow out of the work area.

V.D.2.c.(iii) Work Area Egress. Entry into and egress out of the work area shall be through an airlock that, at a minimum, shall consist of a single chamber with self-closing triple flaps or "Z-flaps" on either side of the chamber. Disposable clothing and footwear shall be worn by all persons entering the containment area. Disposable clothing and footwear used inside the containment shall be deposited in this airlock chamber prior to personnel exiting containment.

V.D.2.c.(iv) Protection of Objects. All movable objects shall be removed from the work area. Objects that cannot be removed shall be sealed with a minimum of 1 layer of 6-mil thickness polyethylene sheeting.

V.D.2.c.(v) Ground Protection. At a minimum, the ground, including decks, driveways and porches, within the work area shall be covered with two layers of 6-mil thickness polyethylene sheeting. The edges of the polyethylene sheeting shall be sealed to the building such that no gaps between the polyethylene sheeting and the building exist. The edges of the polyethylene sheeting shall be raised to create a basin to contain contaminated runoff. The polyethylene sheeting shall be weighted down or otherwise secured to prevent movement. The ground shall be pre-cleaned of visible.

V.D.2.c.(vi) Cleanup. Polyethylene barriers shall be cleaned and removed in accordance with Section V.H.4. (Polyethylene Sheeting Removal Procedures) of this Regulation No. 19. All surfaces and floors within the containment and all adjacent areas used as a pathway to the work area, shall be cleaned by HEPA vacuuming, wet washing, and HEPA vacuuming, and as required in Section V.H. (Cleaning) of this Regulation No. 19. Paint chips in the soil shall be HEPA vacuumed and properly disposed.

V.D.2.d. Exterior containment level X-3 shall consist of the following elements:

V.D.2.d.(i) Containment. At a minimum, all the exterior level X-2 containment requirements as described in Section V.D.2.c. of this Regulation No. 19.

V.D.2.d.(ii) Work Area Egress. Entry into and egress out of the work area shall be through a 3-stage decontamination unit with a shower equipped with hot and cold water that is adjustable inside the shower. Each airlock in the decontamination unit shall be constructed with self-closing triple flaps or "Z-flaps" separating each individual chamber. Persons entering the abatement work area prior to final clearance shall don disposable clothing and footwear. Prior to exiting the containment, personnel shall dispose of the suits in the chamber adjacent to the work area and shower.

V.D.2.d.(iii) Negative Pressure/Airflow. The containment shall have a negative pressure differential of at least -0.02 inches water column between the work area and the clean area. The pressure differential shall be continuously recorded with a recording manometer. The air within the work area shall be exchanged at a minimum rate of 10 times per hour. Air flow shall always be from the outside of containment to within, as verified by smoke testing. Smoke tubes shall be on site at all times during abatement.

V.E. Window Abatement

V.E.1. When abating windows from the exterior of a pre-1978 residential dwelling or child-occupied facility, the person performing the abatement shall comply with the following requirements:

V.E.1.a. Comply with the restrictions in Section V.D.1. (Exterior Abatement Project Restrictions).

V.E.1.b. At a minimum, seal two layers of 6-mil thickness polyethylene sheeting to the inside wall covering the window so as to prevent dust from migrating inside the building during abatement; and

- V.E.1.c. At a minimum, comply with all the exterior containment level X-1, level X-2 or level X-3 requirements described in Section V.D.2. (Containment Requirements).
- V.E.2. When abating windows from the interior of a pre-1978 residential dwelling or child-occupied facility, the person performing the abatement shall comply with the following requirements:
 - V.E.2.a. at a minimum, secure two layers of 6-mil thickness polyethylene sheeting to the exterior wall so as to prevent dust from migrating outside the building during abatement; and
 - V.E.2.b. comply with all interior containment level I-2 or level I-3 requirements.
- V.E.3. If containment is breached, then surfaces on both sides of the window shall be cleaned and cleared.
- V.F. Soil Abatement (equivalent to Federal requirements)
- V.G. Encapsulation and Enclosure Requirements
 - V.G.1. Encapsulation and enclosure systems shall be dust tight for a design life of at least 20 years. Encapsulation and enclosure systems shall not be used on unsound substrates that cannot be stabilized or repaired to support the enclosure or encapsulation systems for at least 20 years.
 - V.G.2. Encapsulation and enclosure systems shall be sealed in accordance with Section V.I.2. (Sealing Replacement Components, Enclosure and Encapsulation) of this Regulation No. 19.
 - V.G.3. To prevent a breach of an enclosure, the surface behind the enclosure shall be permanently labeled every 2 feet with the following warning, "Danger: Lead-Based Paint." A durable drawing of the property floor plan identifying the enclosed areas shall be mounted in a visible location within the structure (e.g. utility room, furnace area, garage).
 - V.G.4. Only those encapsulants explicitly recognized by the division shall be used for abatement projects.
- V.H. Cleaning
 - V.H.1. Pre-cleaning. Visible paint chips and lead-contaminated dust shall be removed from the work area prior to laying polyethylene sheeting on the floor but after all other containment barriers have been erected.
 - V.H.2. Daily Cleaning. All horizontal surfaces in the work area shall be cleaned of visible dust and debris prior to ceasing work for the day.
 - V.H.3. Carpet, Upholstery and Forced Air Duct Cleaning
 - V.H.3.a. Carpet and Rugs. All carpets or rugs that are contaminated with lead-contaminated dust that will be cleaned, and all carpet in the work area that will not be disposed of as lead-contaminated waste, shall be cleaned as set forth below:
 - V.H.3.a.(i) HEPA vacuums shall be used to vacuum all rugs and carpets. A HEPA vacuum equipped with a beater bar or agitator attachment on the vacuum head to dislodge embedded dust shall be used when vacuuming the pile side of carpets.
 - V.H.3.a.(ii) For wall to wall carpeting, the carpet shall be vacuumed for not less than 4 minutes per 10 square feet of carpeting, divided into two time segments of at least 2 minutes for each 10 square feet. The two time vacuuming segments shall be performed in perpendicular directions.
 - V.H.3.a.(iii) For area rugs, the top and bottom of the carpet shall be vacuumed for not less than 1 minute for every 10 square feet per side. After the initial vacuuming of the carpet, the floor below the area rug shall be vacuumed at normal speed. Following the vacuuming of the floor, the pile side of the rug shall again be vacuumed at a rate not less than 2 minutes per 10 square feet of rug.
 - V.H.3.a.(iv) When carpet or rugs are removed from the work area for off-site cleaning or disposal, the carpet or rugs shall be misted, carefully rolled and sealed with 6-mil thickness polyethylene sheeting to prevent the release of dust.
 - V.H.3.b. Upholstery. All upholstery that is contaminated with lead-contaminated dust that will be cleaned, and all upholstered surfaces in the work area that are not disposed of as lead-contaminated waste, shall be HEPA vacuumed with a minimum of three passes over each surface at a total rate of 2 minutes per 10 square feet.
 - V.H.3.c. Forced Air Ducts. Air vent registers within the work area shall be HEPA vacuumed and wet cleaned. Horizontal surfaces in the duct work that can be reached with a vacuum attachment shall be

cleaned of visible dust and debris. The division recommends that air filters on heating units and air conditioners be replaced at the same time as dust removal.

V.H.4. Polyethylene Sheeting Removal Procedures. Prior to final cleaning, protective polyethylene sheeting coverings shall be cleaned of visible debris by HEPA vacuuming and/or wet wiped so that they are visibly clean prior to removal. Multiple layers of polyethylene sheeting shall be removed one layer at a time and only after each individual layer has been wet wiped clean of visible debris.

V.H.5. Final Cleaning. No sooner than 1 hour after the completion of removal, encapsulation, or enclosure activities have ceased, and prior to final clearance, all surfaces in the work area shall be cleaned by HEPA vacuuming, followed by wet cleaning, followed by a second HEPA vacuuming. In addition, persons performing the cleaning shall comply with the following requirements:

V.H.5.a. HEPA vacuuming shall take place only after the surfaces in the work area being vacuumed are dry.

V.H.5.b. Wet cleaning shall use clean water mixed with a cleaning agent. The proportion of cleaning agent to water shall be in accordance with the manufacturer's specifications. At a minimum, the cleaning mixture shall be changed after its use in each room, hallway, or stairwell to avoid recontaminating an area by cleaning it with dirty water.

V.I. Coating and Sealing

V.I.1. Coating

V.I.1.a. All abated surfaces in the work area shall be sealed with polyurethane or deck enamel, painted, or similarly coated so that the surfaces are easily cleanable by occupants. The coating may be applied prior to conducting final clearance wipe sampling.

V.I.1.b. A visual inspection to ensure that lead-based paint hazards in the work area are eliminated shall be conducted prior to the coating of surfaces as required in Section V.I.1.a. of this Regulation No. 19. The visual inspection shall be performed only by a certified inspector or risk assessor.

V.I.1.c. The installation of resilient coverings over an existing lead-based paint enclosure system are exempt from this Section V.I.1. (Coating) of this Regulation No. 19. Surfaces enclosed with resilient coverings such as vinyl, aluminum coil stock, or materials traditionally not repainted are exempt from this Section V.I.1. (Coating) of this Regulation No. 19.

V.I.2. Sealing Replacement Components, Enclosures and Encapsulation. All replacement components, encapsulation systems and enclosures shall be made dust-tight for at least 20 years. All crevices, holes, seams, edges, joints, and cracks shall be caulked. The underside of all components and enclosures shall be back-caulked to further prevent leaded dust and lead residues from escaping the abated surface.

Appendix 11-2
Asbestos Abatement Sequence
(5 CCR 1001-10, Section B.III.H) [Added March 2004]

This appendix applies to asbestos abatement projects in areas of public access where the amount of asbestos-containing material that will be abated exceeds the trigger levels.

Pre-Abatement

Pre-abatement is the time period covering the commencement of construction of the containment and all other preparations (including any necessary pre-cleaning) taking place prior to the actual abatement of ACM. This abatement phase does not include the transport of materials and equipment to the job site. The transport of materials and equipment to the job site is the only activity that is allowed prior to the permit start date.

Below are the steps for the pre-abatement phase of the project. Please note that steps 1 through 6, where applicable, are mandatory, and the exact sequence shown below is mandatory.

- 1) Install critical barriers
- 2) Establish negative pressure
- 3) Construct the decontamination area
- 4) Pre-clean surfaces
- 5) Cover fixed objects
- 6) Construct the containment

Active Abatement

Active abatement means the time period beginning with the completion of the pre-abatement phase and ending when the area has passed final clearance air monitoring and the critical barriers have been completely removed. The active abatement phase includes the actual "gross" removal of ACM and all aspects of "final cleaning" that are conducted prior to the areas being pronounced ready for a final visual inspection. The final visual inspection, final clearance air monitoring, and the removal of critical barriers are the last activities included in the active abatement phase.

Below are the steps for the active abatement phase of the project. Please note that steps 7, 8, 9, and 10, are mandatory, and the exact sequence shown below is mandatory.

- 7) Conduct abatement
- 8) Conduct final visual inspection
- 9) Conduct final clearance air monitoring
- 10) Conduct the tear-down

Post-Abatement

Post abatement means any point in time following the termination of the active abatement phase. Below is the step for the post-abatement phase of the project. Please note that step 11 is mandatory.

- 11) Handle waste. Handling of waste is permissible during the active abatement phase.

(NOTE: 5 CCR 1001-10 III. provides additional information regarding how these steps must be performed.)

SECTION 12
WASTEWATER MANAGEMENT
Colorado Supplement, March 2010

This section covers the state requirements for Wastewater Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

The State of Colorado has adopted the Federal requirements for national categorical standards for industrial users listed in the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements. Industrial users must report to the Control Authority, which may be the local Publicly Owned Treatment Works (POTW). Also adopted by reference are all applicable effluent limitations for categorical industries adopted by U. S. EPA and incorporated in this regulation by reference. The following effluent limitations for categorical industries are hereby incorporated by reference: 40 CFR Parts 405 through 436, 439, 440, 443, 446, 447, 454, 455, 457, 458, 459, 460, 461, 463, 464, 465, 466, 467, 468, 469, and 471; all applicable standards and criteria adopted by in 40 CFR. Part 125; and all applicable toxic pollutant standards adopted in 40 CFR Part 129.

Definitions

- *Act* - the Colorado *Water Quality Control Act* as from time to time amended, Section 25-8-101 et seq. (5 Colorado Code of Regulations (CCR) 1002-31, Section 31.5(1)).
- *Activity* - any operation that may discharge or cause a discharge of pollutants to groundwaters, including but not limited to, point source discharges, pits, ponds, and lagoons used for storage, treatment and/or disposal of pollutants, land applications of wastewater, and nonpoint source discharges. Activity does not include related operations, no matter how closely integrated physically or legally (5 CCR 1002-41, Section 41.3(1)).
- *Agricultural Land* - land on which a food crop, a feed crop, or a fiber crop is grown on a scale larger than a family garden plot. Agricultural land may also include range land, forest land, and land used as pasture (5 CCR 1002-64, Section 64.9 (B)).
- *Agricultural Uses* - the application of biosolids to land for use as a source of macro- or micronutrients, organic matter or other beneficial properties as a soil conditioner for the facilitation of vegetative growth (5 CCR 1002-64, Section 64.9).
- *Agricultural Uses* - the existing or potential future uses of ground water for the cultivation of soil, the production of crops, and/or the raising of livestock (5 CCR 1002-41, Section.41.3(2)) [Citation Revised March 2010].
- *Agricultural Use* - use of reclaimed domestic wastewater for irrigation of crops (food, fiber, fodder, or seed) or irrigation of pastureland for grazing of livestock (5 CCR 1002-84.5) [Added March 2005].
- *Agronomic Rate* - the rate of application of nutrients to plants that is necessary to satisfy the plants' nutritional requirements while strictly minimizing the amount of nutrients that run off to surface waters or which pass below the root zone of the plants (5 CCR 1002-84.5) [Added March 2005].
- *Animal Feeding Operation (AFO)* - a lot or facility (other than an aquatic animal production facility) where the following conditions are met (5 CCR 1002-81.3) [Revised March 2005]:
 - a. Animals (other than aquatic animals) - have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and

- b. Crops, vegetation, forage growth, or post-harvest residues are not sustained in the normal growing season over any portion of the lot or facility.
- *Annual Biosolids Application Rate* - means the maximum amount of biosolids, on a dry weight basis, that can be applied to a unit area of land during a 365-day period (5 CCR 1002-64, Section 64.9 (E)).
- *Annual High Groundwater Table* - the highest elevation that groundwater reaches over a 1-yr period (5 CCR 1002-64, Section 64.9 (F)).
- *Annual Pollutant Loading Limit* - the maximum amount of a pollutant that can be applied to a unit area of land during a 365-day period (5 CCR 1002-64, Section 64.9 (G)).
- *Application Site* - all contiguous areas of a property intended for biosolids application (5 CCR 1002-64, Section 64.9 (H)).
- *Apply* - to place onto or into the soil till zone (5 CCR 1002-64, Section 64.9 (I)).
- *Approval* - the final action of the Water Quality Control Division approving an application for site location approval, certification, or design. A site location approval shall specify the location and, in general, the type of domestic wastewater treatment works being approved and its design capacity. This action may take the form of an approval, conditional approval, or acknowledgement of receiving certification (for interceptors) (5 CCR 1002-22, Section 22.2) [Revised March 2005].
- *Background Level* - the level of any parameter in the groundwater within a specified area as determined by representative measurements of the groundwater quality unaffected by the activity (5 CCR 1002-41, Section 41.3 (3)).
- *Beneficial Uses* - the use of the nutrients and/or organic matter in biosolids to act as a soil conditioner or fertilizer for the promotion of vegetative growth on land (5 CCR 1002-64, Section 64.9 (J)).
- *Beneficial Uses* - those uses of state surface waters to be protected such as those identified in the classification system (5 CCR 1002-31, Section 31.5).
- *Best Management Practice (BMP)* - a practice or a combination of practices that is determined by a governmental agency after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing the amount of pollution generated by nonpoint sources to a level compatible with quality goals (5 CCR 1002-31, Section 31.5 (6)).
- *Best Management Practice (BMP)* - schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of "state waters". BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage (5 CCR 1002-61, Section 61.2).
- *Biosolid* - the accumulated residual product resulting from a domestic wastewater treatment works. Biosolids do not include grit or screenings from a wastewater treatment works, grease, commercial or industrial sludges, or domestic or industrial septage (5 CCR 1002-64, Section 64.9 (K)).
- *Bypass* - the intentional diversion of waste streams from any portion of a treatment facility (5 CCR 1002-61, Section 61.2).
- *Cherry Creek Watershed* - consists of all lands that drain into the following: (a) the mainstem of Cherry Creek, from the source of East and West Cherry Creek to the inlet of Cherry Creek Reservoir (Segment 1), including alluvial groundwater; (b) Cherry Creek Reservoir (Segment 2), including alluvial groundwater; (c) all tributaries

to Cherry Creek, including wetlands and alluvial groundwater, from the sources of East and West Cherry Creeks (parts of Segment 4), and (d) all lakes and reservoirs in the Cherry Creek Reservoir watershed (Segment 5, in part) as described in the Classifications and Numeric Standards - South Platte River Watershed, Regulation #38 (5 CCR 1002-38). The Cherry Creek Watershed is delineated in Figure 1 attached to this regulation (5 CCR 1002-72, Section 72.2) [Added March 2002; Revised March 2010].

- *Closed Facility* - a concentrated animal feeding operation that has ceased operation and for which a permit is not in effect (5 CCR 1002-81.3) [Added March 2005].
- *Closed Loop Cooling System* - a cooling system that has negligible exposure potential to workers and, where applicable, to the public (5 CCR 1002-84.5) [Added March 2007].
- *Commencement of Construction* -includes execution of, and commencement of work under contracts for engineering design, plans and specifications for erection, building, alteration, remodeling, improvement of extension of treatment works and commitment to the completion of construction of such treatment works prior to exceeding permit effluent limitations based upon facility design and capacity, or execution of a contract for the construction thereof defined by section 25-8-501(5)(e) as amended (5 CCR 1002-61, Section 61.2).
- *Commercial User* - a person who uses reclaimed domestic wastewater in the operation of a business patronized by the public, or who provides services to the public. Approved commercial uses are listed in Table A of section 84.8 (5 CCR 1002-84.5) [Added March 2005].
- *Commission* - the Water Quality Control Commission created by section 25-8-201, C.R.S (5 CCR 1002-22, Section 22.2)
- *Concentrated Aquatic Animal Production Facilities* - for the purposes of this section, a hatchery, fish farm, or other facility, which meets the criteria in Appendix C of Part 122, 40 CFR, or which the Division designates. The Division may designate any warm or cold water aquatic animal production facility as a concentrated aquatic animal production facility upon determining that it is a significant contributor of pollution to state waters (5 CCR 1002-61, Section 61.3(3)(b)).
- *Concentrated Animal Feeding Operation (CAFO)* - an AFO that is defined as a Large or Medium CAFO, or that is designated by the Division as a CAFO pursuant to Section 81.4. Two or more AFOs under common ownership are deemed to be a single AFO for the purposes of determining whether they qualify as a Large or Medium CAFO, if they are adjacent to each other or if they use a common area or system for land application of manure or wastewater (5 CCR 1002-81.3) [Revised March 2005].
- *Construction* - entering into a contract for the erection or physical placement of materials, equipment, piping, earthwork, or buildings which are to be part of a domestic wastewater treatment works. When an entity enters into a design-build contract for the domestic wastewater treatment works, the portion of the contract covering the preparation of the site application and/or design, is not considered to be "construction", i.e. the contractor may complete site application and/or design work, including obtaining Division review and approval of the site location and design, and still be in conformance with this regulation (5 CCR 1002-22, Section 22.2) [Added March 2005].
- *Contamination* - for purposes of section 61.13 of this regulation, the addition of pollutants to soil or ground water that results in the impairment of water quality classifications or exceedance of water quality standards for any waters of the state, or a reasonable potential for any such impairment or exceedance (5 CCR 1002-61.2) [Added April 2000].
- *Contamination* - that condition where the concentration level of a pollutant exceeds naturally occurring background levels (5 CCR 1002-41, Section 41.3 (4)).

- *Conveyance Structure* - a natural or constructed conduit (e.g., berm, channel, ditch, pipe, culvert) that carries process-generated wastewater from production area buildings (such as milking barns), or that captures open-lot wastewater from production areas, and diverts the wastewater to an impoundment or between impoundments (5 CCR 1002-81.3) [Added March 2005].
- *Department* - Colorado Department of Health (5 CCR 1003-6).
- *Design Capacity* - the rated capacity (capability of a plant to meet existing effluent limitations). This rated capacity can be expressed as (5 CCR 1002-22, Section 22.2):
 1. annual average
 2. maximum monthly average
 3. another capacity measure certified by the Division as appropriate for the treatment plant.
- *Detection Well* - a monitoring well which is installed between a point of compliance and the point of discharge (5 CCR 1002-61, Section 61.2).
- *Direct Discharge* - any discharge to any surface waters or subsurface waters, including discharge from rapid infiltration basins, related to Cherry Creek or its tributaries, except by land disposal or land treatment. "Direct discharge" does not include discharges from regulated stormwater and background sources (5 CCR 1002-72, Section 72.2) [Added March 2002; Revised March 2010].
- *Discharge* - the discharge of pollutants as defined in Section 25-8-103(3), and also includes land application (5 CCR 1002-61, Section 61.2).
- *Discharge* - the introduction or addition of a pollutant into waters of the state (5 CCR 1002-81.3) [Added March 2005].
- *Division* - the Colorado Department of Health, Water Quality Control Division (5 CCR 1002-22, Section 22.2 (6)).
- *Division* - the Water Quality Control Division of the Department of Public Health and Environment (5 CCR 1002-81.3) [Added March 2005].
- *Domestic Wastewater* - a combination of liquid wastes (sewage) which may include chemicals, household wastes, human excreta, animal or vegetable matter in suspension or solution, or other solids in suspension or solution which are discharged from a dwelling, building or other structure (5 CCR 1002-22, Section 22.2) [Added March 2005].
- *Domestic Wastewater Treatment Plant (Treatment Plant)* - an arrangement of devices and structures for treating, neutralizing, stabilizing, or disposing of domestic wastewater, industrial wastes, and biosolids. A domestic wastewater treatment plant is one type (or element) of domestic wastewater treatment works. The term "domestic wastewater treatment plant" does not include industrial wastewater treatment plants or complexes whose primary function is the treatment of industrial wastes, notwithstanding the fact that human wastes generated incidentally to the industrial process are treated therein (5 CCR 1002-22, Section 22.2) [Revised March 2005].
- *Domestic Wastewater Treatment Works* - a system or facility for treating, neutralizing, stabilizing, or disposing of domestic wastewater which system or facility has a designed capacity to receive more than 2000 gal domestic wastewater/day. The term "domestic wastewater treatment works" also includes appurtenances to such system or facility, such as outfall sewers and pumping stations, and to equipment relating to such appurtenances. The term "domestic wastewater treatment works" does not include industrial wastewater treatment plants or complexes whose primary function is the treatment of industrial wastes, notwithstanding the fact that human wastes generated incidentally to the industrial processes are treated therein (5 CCR 1002-22, Section 22.2(8)).

- *Draft Permit* - a document prepared under these regulations indicating the Division's decision to issue or deny, modify, revoke and reissue, terminate, or reissue a permit are types of draft permits. A denial of a request for modification, revocation and reissuance, or termination is not a draft permit (5 CCR 1002-61, Section 61.2)
- *Dust Control* - the wetting down or pre-watering of work surfaces, work areas, and roads to minimize the off-property transport of airborne particulate matter from activities such as construction, demolition, and sandblasting (5 CCR 1002-84.5) [Added March 2007].
- *Effluent Limitation* - any restriction or prohibition established under this article or Federal law on quantities, rates, and concentrations of chemical, physical, biological, and other constituents that are discharged from point sources into State waters, including, but not limited to, standards of performance for new sources, toxic effluent standards and schedules of compliance (5 CCR 1002-61, Section 61.2(18)).
- *Existing Housed Commercial Swine Feeding Operation* - a housed commercial swine feeding operation for which physical construction was commenced prior to March 30, 1999 (5 CCR 1002-61.2) [Added April 2000].
- *Expansion* - any construction that increases the design capacity of any facility meeting the definition of domestic wastewater treatment works. An expansion involves increasing the hydraulic, organic, or other capacity-limiting pollutant (as defined under design capacity for which the treatment facility has a rated capacity) loading to the domestic wastewater treatment works. It does not mean the replacement in kind of facilities or equipment that would be considered ordinary maintenance. If a modification or replacement does not increase design capacity of the domestic wastewater treatment works, it is not an expansion (5 CCR 1002-22, Section 22.2) [Revised March 2005].
- *Federal Act* - the Federal Water Pollution Control Act, commonly known as the Clean Water Act (CWA) (5 CCR 1002-22, Section 22.2 (15)).
- *Feed Crops* - crops produced primarily for consumption by animals (5 CCR 1002-64, Section 64.9 (P)).
- *Feedlot* - a concentrated animal feeding operation as established in 40 CFR 412.11 (5 CCR 1002-61, Section 61.2).
- *Fire Protection--Nonresidential* - firefighting activities where water is made available at fire hydrants located in areas other than residential, from fire trucks, and in fire sprinkler and interior standpipe systems in buildings in commercial/industrial areas (5 CCR 1002-84.5) [Added March 2007].
- *Fire Protection--Residential* - firefighting activities where water is made available at fire hydrants in residential areas, from fire trucks, and in fire sprinkler and interior standpipe systems at any structure where the occupants do not have access to the plumbing for maintenance and repair (5 CCR 1002-84.5) [Added March 2007].
- *Food Crops* - crops consumed by humans. These include, but are not limited to, grain, fruits, and vegetables (5 CCR 1002-64, Section 64.9 (R)).
- *General Permit* - a permit authorizing a category of discharges under CWA designated category of activities within a geographical area, issued under Section 6.10.2 (5 CCR 1002-61, Section 61.2).
- *General Permit Program Area* - Any area designated by the State Department of Health, Water Quality Control Division, in which owners and operators of a designated category of activities are subject to the same general permit, other than owners and operators to whom individual permits have been or will be issued (5 CCR 1002-61, Section 61.2).
- *Groundwater* - subsurface waters in a zone of saturation that are or can be brought to the surface of the ground or to surface waters through wells, springs, seeps, or other discharge areas (5 CCR 1002-41, Section 41.3 (7)).

- *Ground Water* - subsurface waters in a zone of saturation which are or can be brought to the surface of the ground or to surface waters through wells, springs, seeps, or other discharge areas (5 CCR 1002-81.3) [Added March 2005].
- *Ground Water Recharge* - the entry into the saturated zone of water made available at the watertable surface, together with the associated flow away from the water table within the saturated zone (5 CCR 1002-81.3) [Added March 2005].
- *High Potential for Public Exposure* - land that the public uses frequently including, but not limited to, disturbed land when such land is located in a heavily populated area (e.g., a construction site located within a city), public parks, ball fields, cemeteries, retail plant nurseries, golf courses, and turf farms. Land with high potential for public access does not include land on which public access is controlled by fencing, signage, or other means regardless of the location of such land (5 CCR 1002-64, Section 64.9 (S)).
- *Housed Commercial Swine Feeding Operation* - a housed swine feeding operation that is capable of housing eight hundred thousand pounds or more of live animal weight of swine at any one time or is deemed a commercial operation under local zoning or land use regulations. "Capable of housing" means the combined maximum capacities of the individual housing units that are included in the operation. Unless the owner of the operation provides information about the specific operation to the Division which demonstrates that an alternative capacity calculation is appropriate for that operation, operations will be presumed capable of housing 800,000 pounds or more of live animal weight if they have the capacity to house: (5 CCR 1002-61, Section 61.2) [Added April 2003; Revised February 2004; Citation Revised March 2010]:
 1. 11,500 weaned swine (70 pounds or less); or
 2. 3,020 feeder swine (more than 70 pounds, up to finish weight); or
 3. 2,000 breeding sows and/or boars

Where more than one of the above-listed size categories of swine are present, operations will be deemed capable of housing 800,000 pounds or more of live animal weight if, by dividing the capacity for the number of each type of swine by the respective limit from (a), (b), and/or (c), above, the sum of the resulting numbers is one or greater

Two or more housed swine feeding operations shall be considered to comprise a single housed commercial swine feeding operation if they are both:

 1. under common or affiliated ownership or management, and
 - a. are adjacent to or utilize a common area or system for swine feeding process wastewater or residual solids disposal, or
 - b. are integrated in any way, or
 - c. are located or discharge within the same watershed or into watersheds that are hydrologically connected, or
 - d. are located on or discharge onto land overlying the same ground water aquifer
- *Housed Swine Feeding Operation* - the practice of raising swine in buildings, or other enclosed structures wherein swine of any size are fed for forty-five days or longer in any twelve-mo period, and crop or forage growth or production is not sustained in the area of confinement (5 CCR 1002-61.2) [Added April 2000].
- *Impoundment* - a natural topographic depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials or other seepage control materials), or any other structure which is used for the storage, treatment, evaporation or discharge of pollutant-containing waters, sludge or associated sediment (5 CCR 1002-81.3) [Added March 2005].
- *Individual Sewage Disposal System* -an absorption system of any size or flow or a system or facility for treating, neutralizing, stabilizing, or disposing of sewage which is not a part of or connected to a sewage treatment works (5 CCR 1003-6).
- *Industrial Process Wastewater Sources* - include, but are not limited to, facilities, or activities that discharge non-domestic process wastewater, such as effluent from construction dewatering and sand and gravel mining or

any water that, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product. "Industrial process wastewater sources" do not include facilities or activities that discharge into a wastewater facility, as defined in this section. For the purpose of this regulation only, such sources also do not include such activities as hydrostatic testing operations, hydrant flushing, water main repairs, drinking water treatment facilities, dewatering or foundation draining, and swimming pool drainage (5 CCR 1002-72. Section 72.2) [Added March 2002; Revised March 2010].

- *Industrial User* - a source of indirect discharge which contains nondomestic wastewater (5 CCR 1002-63, Section 7) [Citation Revised March 2010].
- *Industrial User* - a person who uses reclaimed domestic wastewater for industrial processes or in the construction process. Approved industrial uses are listed in Table A of section 84.8 (5 CCR 1002-84.5) [Added March 2005].
- *Integrated In Any Way* - separate operations that are related in a manner that creates a reasonable potential for the operations to result in a measurable negative cumulative impact on water quality or air quality at any one location (5 CCR 1002-61.2) [Added April 2000].
- *Interceptor Sewer* - a sewer line will be considered as an interceptor sewer if it performs one or more of the following functions as its primary purpose (5 CCR 1002.61, Section 61.2):
 1. it intercepts wastes from a final point in a collection system and conveys such waste directly to a treatment plant
 2. it serves in place of a treatment plant and transports the collected wastes to an adjoining collection system or interceptor sewer for treatment
 3. it transports the wastes from one or more municipal collection systems to another municipality or to a regional treatment plant
 4. it intercepts an existing major discharge of raw or inadequately treated wastewater for transport directly to another interceptor or to a treatment plant.
 (A sewer with a minor number of building or lateral connections may be considered an interceptor sewer if it performs one or more of the functions listed above.)
- *Irrigation Return Flow* - tailwater, tile drainage, or surfaced groundwater flow from irrigated land (5 CCR 1002-61, Section 61.2).
- *Irrigation System* - the facilities, piping and other equipment used by a Landscape Irrigation User (5 CCR 1002-84.5) [Added March 2005].
- *Issue or Issuance* - the mailing to all parties of any order, permit, determination, or notice other than notice by publication, by certified mail to the last address furnished to the agency by the person subject thereto or personal service on such person, and the date of issuance of such order, permit, determination, or notice will be the date of such mailing or service or such later date as is stated in the order, permit, determination, or notice (5 CCR 1002-61, Section 61.2).
- *Land Application* - any discharge being applied directly to the land for land disposal or land treatment and does not include a discharge to surface waters even if such waters are subsequently diverted and applied to the land (5 CCR 1002-61, Section 61.2).
- *Land Application Site* - land under the control of an animal feeding operation or concentrated animal feeding operation operator, whether it is owned, rented, or leased, to which manure or wastewater from the production area is or may be applied (5 CCR 1002-81.3) [Added March 2005].
- *Land Disposal* - any discharge or pollutant-containing waters being applied to land for which no further treatment is intended (5 CCR 1002-61, Section 61.2).

- *Land Treatment* - any discharge of pollutant-containing waters being applied to the land for the purpose of treatment (5 CCR 1002-61, Section 61.2).
- *Landscape Irrigation* - irrigation of areas of grass, trees, and other vegetation that are accessible to the public, including, but not limited to, parks, greenbelts, golf courses, and common areas at apartments, townhouses, commercial/business parks, and other similar complexes. For the purposes of this regulation, Landscape Irrigation does not include irrigation with treated effluent at a domestic wastewater treatment plant site (5 CCR 1002-84.5) [Added March 2005; Revised March 2007].
- *Landscape Irrigation User* - a person who uses reclaimed domestic wastewater for the purpose of landscape irrigation (5 CCR 1002-84.5) [Added March 2005].
- *Large Concentrated Animal Feeding Operation (Large CAFO)* - an AFO that stables or confines as many as or more than the numbers of animals specified in any of the following categories (5 CCR 1002-81.3) [Added March 2005]:
 - a. 700 mature dairy cows, whether milked or dry;
 - b. 1,000 veal calves
 - c. 1,000 cattle other than mature dairy cows or veal calves. Cattle include but are not limited to heifers, steers, bulls, and cow/calf pairs;
 - d. 2,500 swine each weighing 55 pounds or more;
 - e. 10,000 swine each weighing less than 55 pounds;
 - f. 500 horses;
 - g. 10,000 sheep or lambs;
 - h. 55,000 turkeys;
 - i. 30,000 laying hens or broilers, if the AFO uses a liquid manure handling system;
 - j. 125,000 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system;
 - k. 82,000 laying hens, if the AFO uses other than a liquid manure handling system;
 - l. 30,000 ducks (if the AFO uses other than a liquid manure handling system) or
 - m. 5,000 ducks (if the AFO uses a liquid manure handling system).
- *Letter of Intent for the Use or Distribution of Biosolids* - the written application for Division authorization to land apply biosolids or distribute or market biosolids to the public submitted by the biosolids preparer or applier (5 CCR 1002-64, Section 64.9 (T)) [Revised March 2008].
- *Low Potential for Public Exposure* - sites subject to infrequent public use including, but not limited to, agricultural land, forest, or disturbed land located in a sparsely populated area (e.g., a strip mine located in a rural area) (5 CCR 1002-64, Section 64.9 (U)).
- *Man-made Drainage System* - a drainage ditch, flushing system, or other drainage device which was constructed by man and is used for the purpose of transporting manure or wastewater (5 CCR 1002-81.3) [Revised March 2005].
- *Manure* - feces, litter, and/or urine and materials, such as bedding, sludge, compost, feed waste, dry harvested forage, and any raw material used in or resulting from the operation of an animal feeding operation, that have been commingled with feces, litter, and/or urine (5 CCR 1002-81.3) [Revised March 2005].
- *Medium Animal Feeding Operation (Medium AFO)* - an AFO with the type and number of animals that fall within any of the ranges listed in section 81.3(19), and which has not been defined or designated as a CAFO (5 CCR 1002-81.3) [Added March 2009].
- *Medium Concentrated Animal Feeding Operation (Medium CAFO)* - an AFO with the type and number of animals that fall within any of the ranges listed in (a) below and which has been defined or designated as a CAFO. An AFO is defined as a Medium CAFO if (5 CCR 1002-81.3) [Added March 2005]:

- a. The type and number of animals that it stables or confines falls within any of the following ranges:
 - i. 200 to 699 mature dairy cows, whether milked or dry;
 - ii. 300 to 999 veal calves;
 - iii. 300 to 999 cattle other than mature dairy cows or veal calves. Cattle include but are not limited to heifers, steers, bulls, and cow/calf pairs.
 - iv. 750 to 2,499 swine each weighing 55 pounds or more;
 - v. 3,000 to 9,999 swine each weighing less than 55 pounds;
 - vi. 150 to 499 horses;
 - vii. 3,000 to 9,999 sheep or lambs;
 - ix. 16,500 to 54,999 turkeys;
 - x. 9,000 to 29,999 laying hens or broilers, if the AFO uses a liquid manure handling system;
 - xi. 37,500 to 124,999 chickens (other than laying hens), if the AFO uses other than a liquid manure handling system;
 - xii. 25,000 to 81,999 laying hens, if the AFO uses other than a liquid manure handling system;
 - xiii. 10,000 to 29,999 ducks (if the AFO uses other than a liquid manure handling system); or
 - xiv. 1,500 to 4,999 ducks (if the AFO uses a liquid manure handling system); and
 - b. Either one of the following conditions are met:
 - i. Pollutants are discharged into surface waters of the state through a man-made drainage system; or
 - ii. Pollutants are discharged directly into surface waters of the state which originate outside of and pass over, across, or through the facility or otherwise come into direct contact with the animals confined in the operation.
- *Municipal Separate Storm Sewer (MS4)* - a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):
 1. owned or operated by a State, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to state waters
 2. designed or used for collecting or conveying stormwater
 3. which is not a combined sewer
 4. which is not part of a Publicly Owned Treatment Works (POTW) (5 CCR 1002-61 Section 61.2) [Added March 2002].
 - *Municipality* - any regional commission, county metropolitan district offering sanitation service, sanitation district, water and sanitation district, water conservancy district, metropolitan sewage disposal district, service authority, city and county, city, town, Indian tribe or authorized Indian tribal organization, or any two or more of them that are acting jointly in connection with a domestic treatment works (5 CCR 1002-61, Section 61.2).
 - *New Housed Commercial Swine Feeding Operation* - a housed commercial swine feeding operation for which physical construction was commenced on or after March 30, 1999 (5 CCR 1002-61.2) [Added April 2000].
 - *New Source* - any building, structure, facility, or installation from which there is or may be a discharge of pollutants, the construction of which commenced after the promulgation of standards of performance for the particular source, pursuant to section 306 of the Clean Water Act. The term also applies where a standard of performance has been proposed, provided that the standard is promulgated within 120 days of its proposal. Except as otherwise provided in an applicable new source performance standard, a source is a "new source" if it meets this definition of "new source", and (5 CCR 1002-81.3) [Added March 2005]:
 - a. It is constructed at a site at which no other source is located; or
 - b. It totally replaces the process or production equipment that causes the discharge of pollutants at an existing source; or
 - c. Its processes are substantially independent of an existing source at the same site. In determining whether these processes are substantially independent, the Division shall consider such factors as the extent to which the new facility is integrated with the existing plant; and the extent to which the new facility is engaged in the same general type of activity as the existing source.

- *No-discharge* - no-discharge of manure or process wastewater to waters of the state except in the event of an applicable design storm event specified in section in 81.3(b) (5 CCR 1002-81, Section 81.3).
- *Nonfood Crop* - any crop not intended for direct human consumption including, but not limited to, crops cultivated for fiber, fuel, or feed crops (5 CCR 1002-64, Section 64.9 (W)).
- *Non-Land-Application Facility* - for purposes of section 61.13 of this regulation, a housed commercial swine feeding operation that is capable of continuous operation without land application of swine feeding process wastewater or residual solids at any on-site or off-site location or the discharge of swine feeding process wastewater to surface waters (5 CCR 1002-61.2) [Added April 2000].
- *Notice of Authorization for Use and Distribution of Biosolids* - a biosolids permit issued by the Division pursuant to Section 25-8-501 of the *Act* indicating the conformance of a proposed beneficial use of biosolids with the criteria contained in this regulation and containing such terms and conditions as are required per Section 64.10.E. (5 CCR 1002-64, Section 64.9 (X)).
- *Open-Lot Wastewater* - any precipitation that comes into contact with manure; any spillage or overflow from animal or poultry watering systems in production area facilities that are not roof-covered; and spray-cooling water used in open-sided pole sheds that are not flushed (5 CCR 1002-81.3) [Added March 2005].
- *Operator* - any person who owns, leases, operates, controls, or supervises an animal feeding operation or concentrated animal feeding operation (5 CCR 1002-81.3) [Added March 2005].
- *Parameter* - the physical, chemical, biological, or radiological constituent or characteristic of the groundwater such as temperature, pH, and groundwater level (5 CCR 1002-41, Section 41.3 (9)).
- *Permit* - a permit issued pursuant to these regulations and therefore includes Colorado Discharge Elimination System permits, including new permits, renewals, general permits, General Permit Program Area permits, and temporary permits (5 CCR 1002-61, Section 61.2).
- *Permit* - a permit issued pursuant to Regulation #61 of the Water Quality Control Commission and therefore includes Colorado Discharge Elimination System permits, including new permits, renewals, general permits, GPPA permits and temporary permits (5 CCR 1002-81.3) [Added March 2005].
- *Person* -an individual, corporation, partnership, association, state or political subdivision thereof, federal agency, state agency, municipality, Commission, or interstate body (5 CCR 1002-61, Section 61.2).
- *Person* - an individual, corporation, partnership, association, state or political subdivision thereof, federal agency, state agency, municipality, commission, or interstate body (5 CCR 1002-81.3) [Added March 2005].
- *Person* - an individual, corporation, partnership, association, state or political subdivision thereof, federal agency, state agency, municipality, commission, or interstate body (5 CCR 1002-84.5) [Added March 2005].
- *Point of Compliance* - a point identified by the treater in the reclaimed domestic wastewater treatment or transmission system after all treatment has been completed and prior to dilution and blending (5 CCR 1002-84.5) [Added March 2005].
- *Point Source* - any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. "Point Source" does not include irrigation return flow (5 CCR 1002-61, Section 61.2).

- *Pollutant* - dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal, or agricultural waste (5 CCR 1002-61, Section 61.2).
- *Pollutant* - dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal, or agricultural waste (5 CCR 1002-81.3) [Added March 2005].
- *Pollution* - manmade, man-induced, or natural alteration of the physical, chemical, biological, and radiological integrity of water (5 CCR 1002-61, Section 61.2).
- *Preparer* - either the person who generates biosolids during the treatment of domestic sewage in a domestic wastewater treatment works or the person who derives a final product material from biosolids (5 CCR 1002-64, Section 9) [Added March 2008; Citation Revised March 2010].
- *Process-generated Wastewater* - wastewater, except tank overflow and open-lot wastewater, resulting from waters being directly or indirectly used in the operation of an animal feeding operation for any or all of the following: spillage or overflow from animal or poultry watering systems, washing, cleaning, or flushing barns, manure pits, or other roof-covered production area facilities; washing of animals; spray-cooling of animals (except in open-sided pole barns in open lots); cooling or cleaning feed mills (also known as blowdown water); or direct contact swimming by animals. Process-generated wastewater includes any wastewater, except tank overflow and open-lot wastewater, which results from water coming into contact with any raw materials, products, or byproducts, including manure, litter, feed, milk, or eggs (5 CCR 1002-81.3) [Added March 2005].
- *Process Wastewater* - any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product (5 CCR 1002-61, Section 61.2).
- *Production Area* - that part of an AFO or CAFO that includes the animal confinement area, the manure storage area, the raw materials storage area, and wastewater containment areas. The animal confinement area includes but is not limited to open lots, housed lots, feedlots, confinement houses, stall barns, free stall barns, milkrooms, milking centers, cowyards, barnyards, medication pens, walkers, animal walkways, and stables. The manure and residual solids storage area includes but is not limited to lagoons, runoff ponds, storage sheds, stockpiles, under house or pit storages, liquid impoundments and tanks, static piles, and composting piles. The raw materials storage area includes but is not limited to feed silos, silage bunkers, and bedding materials. The waste containment area includes but is not limited to settling basins, and areas within berms and diversions which separate uncontaminated storm water. Also included in the definition of production area is any egg washing or egg processing facility, and any area used in the storage, handling, treatment, or disposal of mortalities (5 CCR 1002-81.3) [Added March 2005].
- *Promulgate* - authority to adopt, and from time to time amend, repeal, modify, publish and put into effect (5 CCR 1002-61, Section 61.2).
- *Public Contact Site* - land that is available for specific uses by the public and, as such, has a potential for direct public contact when biosolids are applied to such a site (5 CCR 1002-64, Section 64.9 (BB)).
- *Public Drinking Water System* - a system for the provision to the public of piped water for human consumption, if such system has at least 15 service connections or serves an average of at least 25 persons daily at least 60 days out of the year. A public drinking system includes both community and noncommunity systems (5 CCR 1002-81.3) [Added March 2005].
- *Publicly Owned Treatment Works (POTW)* - a publicly owned domestic wastewater treatment facility. This includes any publicly owned devices and systems used in the storage, treatment, recycling, or reclamation of

municipal sewage or treatment of industrial wastes of a liquid nature. It also includes sewers, pipes and other conveyances if they are publicly owned or if they convey wastewater to a POTW. The term also means the municipality as defined in Section 502 (4) of the CWA, which has jurisdiction over the indirect discharges to and the discharge from such a treatment works (5 CCR 1002-61, Section 61.2).

- *Reclaimed Water* - domestic wastewater that has received secondary treatment by a domestic wastewater treatment works and such additional treatment as to enable the wastewater to meet the standards for approved uses (5 CCR 1002-84.5) [Added March 2007].
- *Regulated Small Municipal Separate Storm Sewer System* – mean any of the following:
 1. a small MS4 located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census. (If the small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated); or
 2. a small MS4 designated by the Division, including where the designation is pursuant to 61.3(2)(f)(v)(A)(III), or based upon a petition under 61.3(2)(g)(iv) (5 CCR 1002-61.2) [Added March 2002].
- *Resident-Controlled Landscape Irrigation* - irrigation of areas of grass, trees and other vegetation located on the property of a single family or other residential occupancy where the occupant is the User and is responsible for the maintenance and/or operation of the irrigation system (5 CCR 1002-84.5) [Added March 2007].
- *Residual Solids* - for purposes of section 61.13 of this regulation, manure and other solids separated from swine feeding process wastewater, sludges derived from impoundments used to store or treat swine feeding process wastewater, solids derived from treatment of swine feeding process wastewater by means other than impoundments, and composted solids (5 CCR 1002-61.2) [Added April 2000].
- *Restricted Access* - controlled and limited access to the areas where reclaimed domestic wastewater is being used and meets the Category 1 standards as defined in section 84.7 (5 CCR 1002-84.5) [Added March 2005].
- *Restricted Use* - the use or distribution of biosolids for use on land with high potential for public exposure (5 CCR 1002-64, Section 64.9 (DD)).
- *Runoff* - precipitation (e.g., rainwater), leachate, or other liquid that drains overland on any part of a land surface and runs off of the land surface (5 CCR 1002-64, Section 64.9 (EE)).
- *Schedule of Compliance* - a schedule of remedial measures and times including an enforceable sequence of actions or operations leading to compliance with a control regulation or effluent limitation (5 CCR 1002-61, Section 61.2).
- *Secondary Treatment* - that level of wastewater treatment in domestic wastewater treatment works which obtains the effluent quality needed to achieve the effluent limitations specified in Regulation No. 71, section 2 of "Regulations for Effluent Limitations." (5 CCR 1002-61, Section 61.2).
- *Setback* - a specified distance from waters of the state, or potential conduits to waters of the state (5 CCR 1002-81.3) [Added March 2005].
- *Significant Industrial User* - includes the following (5 CCR 1002-63, Section 63.7) [Revised March 2008]:
 1. all Industrial Users subject to categorical pretreatment standards under 63.14 through 63.52
 2. any other Industrial User that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling and boiler blowdown wastewater); contributes a process wastestream which makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the control authority, as defined in 63.7, on the basis that the Industrial User has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement.

3. the Control Authority may determine that an Industrial User subject to categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR chapter I, subchapter N is a Non-Significant Categorical Industrial User rather than a Significant Industrial User on a finding that the Industrial User never discharges more than 100 gallons per day (gpd) of total categorical wastewater (excluding sanitary, non-contact cooling and boiler blowdown wastewater, unless specifically included in the Pretreatment Standard) and the following conditions are met:
 - (a) the Industrial User, prior to Control Authority's finding, has consistently complied with all applicable categorical Pretreatment Standards and Requirements;
 - (b) the Industrial User annually submits the certification statement required in 40 CFR 403.12(q) together with any additional information necessary to support the certification statement; and
 - (c) the Industrial User never discharges any untreated concentrated wastewater.
 3. upon a finding that an Industrial User meeting the criteria in subsection (2) of this section has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the control authority may at any time, on its own initiative or in response to a petition received from an Industrial User or POTW determine, that such Industrial User is not a significant Industrial User.
- *Silvicultural Point Source* - any discernible, confined, and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities and from which pollutants are discharged into state waters. The term does not include nonpoint source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff. However, some of these activities may involve point source discharges of dredged or fill material which may require a permit under Section 404 of the Clean Water Act. (CCR 1002-61, Section 61.3(5)(b)).
 - *Site Boundary* - the outermost perimeter of the property or lease boundary of a facility for which the owner and/or operator has control (5 CCR 1002-41, Section 41.3 (11)).
 - *Small Concentrated Animal Feeding Operation (Small CAFO)* - an AFO that is designated by the Division as a CAFO, and is not a Medium CAFO (5 CCR 1002-81.3) [Added March 2005].
 - *Small Municipal Separate Storm Sewer System (small MS4)* - any municipal separate storm sewer that is not defined as a "large" or "medium" municipal separate storm sewer system. This term includes publicly-owned systems similar to separate storm sewer systems in municipalities (i.e., non-standard MS4s), including, but not limited to, systems at military bases and large education, hospital or prison complexes, if they are designed for a maximum daily user population (residents and individuals who come there to work or use the MS4's facilities) of at least 1000 (5 CCR 1002-61.2) [Added March 2002].
 - *Specified Area* - that area within which the groundwater is classified (5 CCR 1002-41, Section 41.3 (12)).
 - *Standard* - a narrative and/or numeric restriction established by these regulations and applied to groundwaters to protect one or more existing or potential future uses (5 CCR 1002-41.3 (13)).
 - *State Waters* - any and all surface and subsurface waters that are contained in or flow in or through Colorado, except waters in sewage systems, water in treatment works or disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed (5 CCR 1002-22, Section 22.2(19) and 1002-62.3) [Citation Revised March 2009; Citation Revised March 2010].
 - *Store Biosolids or Storage of Biosolids* - the placement of biosolids on land on which the biosolids remain for 2 yr or less. This does not include the placement of biosolids on land for treatment (e.g., biosolids stabilization accomplished via long-term stockpiling) (5 CCR 1002-64.9(GG)).
 - *Stormwater* - stormwater runoff, snow melt runoff, and surface runoff and drainage (5 CCR 1002-61, Section 61.2).

- *Stormwater Discharge Associated with Industrial Activity* - the discharge from any conveyance which is used for collecting and conveying stormwater and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under 40 CFR Part 122 or the CDPS program under Regulation No. 61. The term "stormwater discharge associated with industrial activity" includes, but is not limited to storm water discharges from the following places (5 CCR 1002-61, Section 61.3(2)(e)(ii)):
 1. industrial plant yards
 2. immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility
 3. material handling sites
 4. refuse sites; sites used for the application or disposal of process waste waters
 5. sites used for the storage and maintenance of material handling equipment
 6. sites used for residual treatment, storage, or disposal
 7. shipping and receiving areas
 8. manufacturing buildings
 9. storage areas (including tank farms) for raw materials, and intermediate and finished products
 10. areas where industrial activity has taken place in the past and significant materials remain and are exposed to stormwater.
- *Surface Water* - all waters of the state, except subsurface waters, and including ground water that may be hydrologically connected to non-subsurface water (5 CCR 1002-81.3) [Added March 2005].
- *Swine Feeding Process Wastewater* - any process-generated wastewater used in a housed commercial swine feeding operation, including that wastewater resulting from feeding, flushing, or washing operations, and any water or precipitation that comes into contact with any residual solids, urine, or any other animal feeding by-product resulting from the production of swine (5 CCR 1002-61.2) [Added April 2000].
- *Tank* - a stationary device designed to contain an accumulation of pollutant-containing water, which is constructed primarily of non-earthen materials (e.g., wood, concrete, steel, plastic) which provide structural support (5 CCR 1002-81.3) [Added March 2005].
- *Tank Overflow* - livestock drinking water in constant-flow cattle watering troughs that overflows into in-trough drain pipes and is retained separately from process wastewater storage (5 CCR 1002-81.3) [Added March 2005].
- *Toxic Pollutant* - any pollutant listed as toxic under Section 307(A)(1) of CWA (5 CCR 1002-61, Section 61.2(73)).
- *Transmission System* - the treater's facilities that transport treated reclaimed domestic wastewater between the treater and users (5 CCR 1002-84.5) [Added March 2005].
- *Treat Biosolids or Treatment of Biosolids* - the preparation of biosolids for final use or distribution including, but not limited to, thickening, stabilization, stockpiling, dewatering, and blending of biosolids from different sources or with other materials. This does not include storage of biosolids except as such storage is incidental to treatment (5 CCR 1002-64, Section 64.9 (HH)).
- *Treater* - a person who treats and provides reclaimed domestic wastewater to a user for the purpose of landscape irrigation, commercial or industrial use. The treater and the user may be the same entity (5 CCR 1002-84.5) [Added March 2005].
- *Treatment Works Treating Domestic Sewage* - a domestic wastewater treatment works or other sludge or biosolids handling facility, regardless of ownership, used in the storage, treatment, recycling, or reclamation of domestic sewage or land application of biosolids (5 CCR 1002-64, Section 64.9(II)).

- *Unrestricted Access* - uncontrolled access to the areas where reclaimed domestic wastewater is being used and meets the Category 2 standards as defined in section 84.7 (5 CCR 1002-84.5) [Added March 2005].
- *Upset* - an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation (5 CCR 1002-61, Section 61.2).
- *User* - a person who uses reclaimed water for landscape irrigation, fire protection, commercial, or industrial uses (5 CCR 1002-84.5) [Added March 2007].
- *User Plan to Comply* - the information and documentation a user is required to submit to the treater under sections 84.9 of this regulation (5 CCR 1002-84.5) [Added March 2007].
- *Wastewater* - process-generated wastewater and open-lot wastewater (5 CCR 1002-81.3) [Added March 2005].
- *Waters of the State* - any and all surface and subsurface waters which are contained in or flow in or through this state, except waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed (5 CCR 1002-81.3) [Citation Revised March 2005].
- *Water Quality Standard* - any standard promulgated pursuant to Section 25-8-204 (5 CCR 1002-61, Section 61.2).
- *Wetlands* - those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (5 CCR 1002-64, Section 64.9 (KK)).
- *Whole Effluent Toxicity* - a biological activity effect by which effluents exhibit antagonism to the aquatic organisms used in biomonitoring tests in the form of acute or chronic toxicity. Whole effluent toxicity may be caused by a variety of specific compounds or by synergistic interaction among compounds (5 CCR 1002-61, Section 61.2).

**WASTEWATER MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

Missing Checklist Items	WA.2.1.CO.
Discharges to the Environment	WA.5.1.CO. through WA.5.4.CO.
Permits	WA.10.1.CO. through WA.10.19.CO.
State Permits	[Moved]
Treatment Works	WA.20.1.CO. through WA.20.10.CO.
Discharges to a POTW/FOTW	[Deleted].
Other Discharges and Dischargers	WA.95.1.CO. through WA.95.13.CO.
Individual Sewage Systems	WA.100.1.CO. through WA.100.4.CO.
Land Application of Sludge	
General	WA.105.1.CO. through WA.105.8.CO.
Notifications	WA.115.1.CO.
Monitoring	WA.120.1.CO. and WA.120.2.CO.
Recordkeeping and Reporting	WA.125.1.CO. and WA.125.2.CO.
Surface Disposal of Sludge	WA.135.1.CO. through WA.135.6.CO.
Wastewater Reuse	WA.155.1.CO. through WA.155.9.CO.

GUIDANCE FOR COLORADO APPENDIX USERS

REFER TO APPENDIX NUMBERS:

REFER TO APPENDIX TITLES:

12-1	Limitations for the Discharge of Wastes
12-2	Adjusted TSS Limitations for the Discharge of Wastes
12-3	Criteria for Determining the Classification of Biosolids
12-4	Pathogen Destruction Criteria Requirements for Biosolids
12-5	Vector Attraction Reduction (Biosolids Stability) Criteria for Biosolids
12-6	Annual Pollutant Loading Limits
12-7	Cumulative Pollutant Loading Limits
12-8	Frequency of Biosolid Sample Collection and Analysis
12-9	Biosolid Analyses and Reporting Units
12-10	Soil Fertility Analyses and Reporting Units
12-11	Soil Metals and Physical Characteristics Reporting Units
12-12	Biosolid Analyses and Reporting Units
12-13	Reclaimed Domestic Wastewater Uses
12-14	Facility Management Plans for non-Permitted Large CAFOs
12-15	Ground Water Protection Requirements - Concentrated Animal Feeding Operations (Permitted And Non-Permitted)

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WA.2.</p> <p>MISSING CHECKLIST ITEMS</p> <p>WA.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations</p>

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WA.5.</p> <p>DISCHARGES TO THE ENVIRONMENT</p> <p>WA.5.1.CO. Wastewater dischargers that discharge into state waters must not exceed effluent limitations (5 CCR 1002-62, Section 62.2 and 62.5(1) through (4)) [Revised May 1998; Revised March 1999; Revised March 2010].</p> <p>WA.5.2.CO. Wastewater dischargers that discharge into state waters must meet sampling requirements (5 CCR 1002-62, Section 62.5(5) through (9)) [Revised May 1998; Revised March 2010].</p>	<p>(NOTE: This checklist applies to all dischargers of wastewater, except storm runoff waters, into any state waters.)</p> <p>Verify that the wastewater discharger does not discharge wastewaters into state waters that violate any of the limitations listed in Appendix 12-1.</p> <p>Verify that wastewaters diluted with other waters are not held to be in compliance unless such compliance would exist without the dilution.</p> <p>Verify that the arithmetic mean of the values for effluent samples for CBOD₅, BOD₅, and TSS collected in a period of 30 consecutive days do not exceed 15 percent of the arithmetic mean of the values for effluent samples collected at approximately the same time during the same period or an 85 percent removal.</p> <p>(NOTE: Dischargers unable to meet the 85 percent removal for a parameter under specific circumstances may be allowed to substitute a lower percent removal requirement or a mass loading limit.)</p> <p>(NOTE: The numeric limitations for TSS may be adjusted to the limits in Appendix 12-2 for waste stabilization ponds which treat domestic waste provided that:</p> <ul style="list-style-type: none"> - the waste stabilization ponds are the principal process used for secondary treatment - the facility is designed to achieve the solids removal possible with best waste stabilization pond technology.) <p>(NOTE: This checklist applies to all dischargers of wastewater, except storm runoff waters, into any state waters.)</p> <p>Verify that sampling of the waste discharges are made prior to any admixture of waste discharges with the receiving water.</p> <p>Verify that all new discharges, except for individual sewage disposal (onsite) systems, are constructed so that a sample of the effluent can be obtained at a point after the final treatment process and before discharge to state waters.</p> <p>Verify that, if samples for BOD₅, CBOD₅, or TSS are taken at the outfall of a final quiescent pond, with a detention time of at least 48 hours, the sample may be a grab sample and in all other plants, effluent samples are a composite sample, comprised of a minimum of 4 grab samples taken approximately 2 hours apart.</p>

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WA.5.3.CO. [Deleted May 1998].</p> <p>WA.5.4.CO. Dischargers must meet discharge limitations for discharges into surface waters of the state (5 CCR 1002-31, Sections 31.11(1) and (2)) [Revised May 1998; Revised March 2010].</p>	<p>Verify that the wastewater discharger can prove the accuracy of any flow-measuring device used in obtaining the discharge monitoring report data.</p> <p>Verify that the flow measuring device indicates values within 10 percent of the actual flow being measured.</p> <p>(NOTE: Wastewater that is returned to its source may be required to meet the limits specified in Appendix 12-1 in addition to the measured values of the same parameters in the incoming water except where an exceedance of a water quality standard would take place.)</p> <p>(NOTE: Wastewater dischargers that discharge into any waters of the state may be allowed with Division approval, to substitute values for chemical oxygen demand, total organic carbon, or total oxygen demand for the required BOD₅, or CBOD₅ values listed in Appendix 12-1.)</p> <p>Verify that, except for wetland waters, discharges from point sources or nonpoint sources to surface waters do not:</p> <ul style="list-style-type: none"> - settle to form bottom deposits detrimental to the beneficial uses - form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses - produce a predominance of undesirable aquatic life - produce color, odor, or other conditions in such a degree as to create a nuisance or harm existing beneficial uses or impart any undesirable taste to significant edible aquatic species or to the water - cause harm to the beneficial uses or toxic to humans, animals, plants, or aquatic life - cause a film on the surface or produce a deposit on shorelines. <p>Verify that discharges from point sources or nonpoint sources to surface waters in wetlands do not:</p> <ul style="list-style-type: none"> - produce color, odor, changes in pH, or other conditions in such a degree as to create a nuisance or harm water quality dependent functions or impart any undesirable taste to significant edible aquatic species of the wetland - are toxic to humans, animals, plants, or aquatic life of the wetlands. <p>Verify that municipal, industrial, or agricultural discharges do not contribute to the exceedance of the following radioactive materials in surface waters:</p> <p><u>Parameter</u> <u>pCi/L</u></p>

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT Colorado Supplement		
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010	
	Americium 241	0.15
	Cesium 134	80
	Plutonium 238, 239, and 240	0.15
	Radium 226 and 228	5
	Strontium 90	8
	Thorium 230 and 22	60
	Tritium	20,000

COMPLIANCE CATEGORY: WASTEWATER MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WA.10.</p> <p>PERMITS</p> <p>WA.10.1.CO. Any point source dischargers of any pollutant into State waters must have a Colorado Discharge Permit System (CDPS) permit (5 CCR 1002-61, Sections 61.1 and 61.8) [Revised May 1998; Revised March 2007].</p> <p>WA.10.2.CO. Storm water discharges associated with industrial activity are required to obtain a permit (5 CCR 1002-61, Section 61.3(2)(e)) [Revised May 1998; Revised March 2002].</p>	<p>(NOTE: Moved from WA.15.1.CO.; March 2004.)</p> <p>Verify that any person who discharges any pollutant into any State water from a point source has obtained a CDPS permit.</p> <p>Verify that the point source discharger complies with all the terms and conditions of its discharge permits.</p> <p>Verify that all facilities and systems of treatment and control (and related appurtenances) that are necessary for compliance are properly operated and maintained.</p> <p>(NOTE: Activities such as diversion, carriage, and exchange of water from or into streams, lakes, reservoirs, conveyance structures, or storage of water in or release of water from lakes, reservoirs, or conveyance structures, in the exercise of water rights are not considered to be point source discharges of pollution.)</p> <p>(NOTE: No permit is required for any flow or return flow of irrigation water into state waters or for animal or agricultural waste on farms and ranches except when required by the Federal CWA or regulations.)</p> <p>(NOTE: Moved from WA.15.2.CO.; March 2004.)</p> <p>Verify that any person who discharges stormwater into any State water from a point source has obtained a CDPS permit if the discharge meets one of the following criteria:</p> <ul style="list-style-type: none"> - a discharge which has been issued a permit prior to 4 February 1987 - a stormwater discharge associated with an industrial activity - any stormwater discharge associated with industrial activity from an airport, power plant or uncontrolled sanitary landfill owned or operated by a municipality with a population of less than 100,000 - a discharge associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system - a discharge from a large or medium municipal separate storm sewer system - a discharge which either the Division or the EPA Regional Administrator determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to state waters.

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<p>WA.10.3.CO. Dischargers operating under a general permit must meet the permit requirements (5 CCR 1002-61, Section 61.9(2)) [Revised May 1998; Revised March 2010].</p>	<p>(NOTE: A permit is not required for any discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing or treatment operations or transmission facilities, composed entirely of flows which are from conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that has not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.)</p> <p>(NOTE: Areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots, are excluded from these requirements as long as the drainage from the excluded areas is not mixed with stormwater drained from areas associated with industrial activities.)</p> <p>(NOTE: The permitting requirements apply to discharges from industrial facilities, including industrial facilities that are Federally, State, or municipally owned or operated, that meet the definition of stormwater discharge associated with industrial activity.)</p> <p>Verify that all stormwater discharges associated with industrial activity that discharges through a stormwater discharge system that is not a municipal separate storm sewer are covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to state waters, with each discharger to the non-municipal conveyance a co-permittee to that permit.</p> <p>(NOTE: Moved from WA.15.3.CO.; March 2004.)</p> <p>(NOTE: The Division may issue a general permit to cover a category of discharges, except those covered by individual permits, within a geographic area which shall correspond to existing geographic or political boundaries. The general permit is written to regulate, either</p> <ul style="list-style-type: none"> - a stormwater point source - a category of point sources other than stormwater point sources if the sources all: <ul style="list-style-type: none"> - involve the same or substantially similar types of operations - discharge the same types of wastes - require the same effluent limitations or operating conditions - require the same or similar monitoring - are more appropriately controlled under a general permit than individual permits, in the opinion of the Director.) <p>Verify that, prior to beginning the activity and within the time frame specified in the general permit, the dischargers submit to the Division a written application to be covered by the general permit</p> <p>(NOTE: Discharges other than discharges from publicly owned treatment works, combined sewer overflows, municipal separate storm sewer systems, primary</p>

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	<p>industrial facilities, and stormwater discharges associated with industrial activity, may, at the discretion of the Division, be authorized to discharge under a general permit without submitting an application. The Division may notify a discharger (or treatment works treating domestic sewage) that it is covered by a general permit, even if the discharger (or treatment works treating domestic sewage) has not submitted an application to be covered.)</p> <p>Verify that the discharger is acting in compliance with the requirements and conditions of the general permit.</p>
<p>WA.10.4.CO. Wastewater dischargers that discharge to a ditch and other manmade conveyance structures must have a permit (5 CCR 1002-61, Section 61.8(10)(a)) [Revised May 1998; Citation Revised March 2004; Revised March 2010].</p>	<p>(NOTE: Moved from WA.15.4.CO.; March 2004.)</p> <p>Verify that all wastewater dischargers making point source discharges to ditches or other manmade conveyance structures have obtained a permit.</p>
<p>WA.10.5.CO. Concentrated aquatic animal production and aquaculture facilities and aquaculture projects are required to obtain a permit (5 CCR 1002-61, Section 61.3(3) and (4)) [Citation Revised May 1998].</p>	<p>(NOTE: Moved from WA.15.5.CO.; March 2004.)</p> <p>Verify that concentrated aquatic animal production facilities and aquaculture projects have a permit to discharge.</p> <p>(NOTE: The Division may designate any warm or cold water aquatic animal production facility as a concentrated aquatic animal production facility upon determining that it is a significant contributor of pollution to state waters. A permit for these facilities is not required until the Division has conducted an onsite inspection of the facility and has determined that the facility will be regulated under these regulations.)</p>
<p>WA.10.6.CO. Discharges from silvicultural activities are required to obtain a permit (5 CCR 1002-61, Section 61.3(5)) [Revised May 1998].</p>	<p>(NOTE: Moved from WA.15.6.CO.; March 2004.)</p> <p>Verify that any silvicultural point source has obtained a CDPS permit.</p>
<p>WA.10.7.CO. Land application discharges and discharges from</p>	<p>(NOTE: Moved from WA.15.7.CO.; March 2004.)</p> <p>Verify that a permit is obtained for all land application discharges and discharges</p>

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<p>impoundments must have a groundwater permit (5 CCR 1002-61, Section 61.14) [Citation Revised May 1998].</p>	<p>from impoundments unless:</p> <ul style="list-style-type: none"> - the activities are specifically exempt - the activities are subject to another Departments jurisdiction - the impoundment has received a waiver - the owner of a land application system can demonstrate that: <ul style="list-style-type: none"> - the design and operation of the system will result in complete evapotranspiration of the effluent - there is adequate storage provided for the effluent during periods of inclement weather or where the ground has been frozen - any augmentation plan or substitute supply plan for the land application site does not provide a credit for return of the effluent to groundwater. <p>(NOTE: The following facilities are specifically exempt under the groundwater discharge provisions:</p> <ul style="list-style-type: none"> - any impoundment subject to regulation under the Uranium Mill Tailing Radiation Control Act (42 U.S. Code, Section 7901, et seq. as amended) - any impoundment used in the treatment, storage, or recharge of raw or potable water - any stormwater retention or detention impoundment - any impoundment or land application system for which a currently valid certificate of designation has been obtained, and other impoundment or land application systems are not part of a wastewater treatment system for which a Colorado Discharge Permit System permit for a discharge to surface waters is required - any tank which does not result in a discharge to groundwater - any disposal of biosolids through beneficial application to land pursuant to the Biosolids Regulations 64 (5 CCR 1002-64) - any facility operating under a permit issued pursuant to the Underground Injection Control provisions of the Safe Drinking Water Act - any individual sewage disposal system with a design capacity of 2000 gal/day or less, if designed and constructed in accordance with requirements pursuant to the Individual Sewage Disposal System Act CRS 25-10-101, et. seq. - any groundwater permit conditions, limitations, or control plans established by the Division pursuant to these regulations are only subject to enforcement through the <i>Colorado Water Quality Control Act</i>.) <p>(NOTE: Land application systems whose construction was commenced after 1 July 1993, are prohibited from applying any effluent to the land prior to obtaining an effective discharge permit. Impoundments whose construction commenced after 1 July 1993 and have not received a waiver, are prohibited from placing any material, other than raw or potable water, in the impoundment prior to obtaining a discharge permit.)</p>
<p>WA.10.8.CO. Sources discharging to storm sewers</p>	<p>(NOTE: Moved from WA.15.8.CO.; March 2004.)</p>

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<p>must have a valid permit (5 CCR 1002-65, Section 65.2) [Citation Revised May 1998].</p>	<p>Verify that any pollutant from a point source does not flow directly into a storm sewer pipe or inlet to such pipe unless the discharger has obtained a permit for the discharge from the Division.</p> <p>(NOTE: Where the responsible party for a discharge can demonstrate to the Division that a discharge to a storm sewer system is contained within and removed from the storm sewer system without reaching state waters, as defined at section 25-8-103(19), C.R.S., no violation will be found to exist.)</p>
<p>WA.10.9.CO. All existing manufacturing, commercial, mining, and silvicultural dischargers must meet notification standards (5 CCR 1002-61, Section 61.8(5)(k)) [Citation Revised May 1998; Revised March 2004; Revised March 2007].</p>	<p>(NOTE: Moved from WA.15.9.CO.; March 2004.)</p> <p>Verify that the Division is notified as soon as the permit holder knows or has reason to believe that any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":</p> <ul style="list-style-type: none"> - 100 micrograms/L - 200 micrograms/L for acrolein and acrylonitrile - 500 micrograms/L for 2,4-dinitrophenol and 2-methyl- 4,6- dinitrophenol - 1 mg/L for antimony - 5 times the maximum concentration value reported for that pollutant in the permit application - the level established by the Division in accordance with 40 CFR 122.44(f). <p>Verify that the Division is notified as soon as the permit holder knows or has reason to believe that any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":</p> <ul style="list-style-type: none"> - 100 micrograms/L - 500 micrograms/L for 2,4-dinitrophenol and 2-methyl- 4,6- dinitrophenol - 1 mg/L for antimony - 10 times the maximum concentration value reported for that pollutant in the permit application - the level established by the Division in accordance with 40 CFR 122.44(f).
<p>WA.10.10.CO. CDPS permit holders must notify the Division of changes that might affect the permitted discharge (5 CCR 1002-61, Section 61.8(5)(a) and (e))</p>	<p>(NOTE: Moved from WA.15.10.CO.; March 2004.)</p> <p>Verify that the CDPS permittee gives advance notice to the Division of any planned changes in the permitted facility or activity that may result in noncompliance with the permit requirements.</p>

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<p>through (h))) [Citation Revised May 1998; Revised February 2004; Revised March 2007].</p> <p>WA.10.11.CO. Permitted dischargers must meet bypasses and upsets requirements (5 CCR 1002-61, Sections 61.8(3)(i) and 61.8(5)(d) and (e) [Citation Revised May 1998; Revised March 2004].</p>	<p>Verify that the permittee report the following circumstances, orally, within 24 hours of becoming aware of the circumstances, and, in writing, within 5 working days:</p> <ul style="list-style-type: none"> - circumstances leading to any noncompliance that may endanger health or the environment - circumstances leading to any unanticipated bypass that exceeds any effluent limitation in the permit - circumstances leading to any upset which exceeds any effluent limitation in the permit - any violation of a maximum daily discharge limitation for any of the pollutants listed by the Division in the permit. <p>Verify that written report contains the following:</p> <ul style="list-style-type: none"> - a description of the noncompliance and its cause - the period of noncompliance including exact dates and times - if the noncompliance has not been corrected, the anticipated time it is expected to continue - steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. <p>Verify that the Division is notified, in writing, of any planned physical alterations or additions to the permitted facility when:</p> <ul style="list-style-type: none"> - the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged - the alteration or addition results in a significant change in the permittees sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported pursuant to an approved land application plan. <p>Verify that, when the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Division, the permittee promptly submit such facts or information.</p> <p>(NOTE: Moved from WA.15.12.CO.; March 2004.)</p> <p>Verify that there are no bypasses except in the following instances:</p> <ul style="list-style-type: none"> - necessary to prevent loss of life, personal injury, or severe property damage - no feasible alternatives to bypass such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime, and proper notices were submitted.

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	<p>Verify that the discharger reports to the Division orally within 24 h of becoming aware of any unanticipated incident that leads to the following:</p> <ul style="list-style-type: none"> - any noncompliance which may endanger health or the environment - any unanticipated bypass which exceeds any effluent limitation in the permit - any upset which exceeds any effluent limitation in the permit - any violation of a maximum daily discharge limitation for any of the pollutants listed by the Division in the permit to be reported within 24 h. <p>Verify that the discharger submits the following information in writing to the Division within 5 days of any circumstance subject to the 24 h notification requirement that results in violation of permit limitations:</p> <ul style="list-style-type: none"> - a description of the noncompliance and its cause - the period of noncompliance including dates and times - if the noncompliance is not corrected, the anticipated time the noncompliance is expected to continue - steps taken or planned to reduce, eliminate and prevent reoccurrence of the noncompliance. <p>(NOTE: The discharger may allow any bypass to occur that does not cause effluent limitations to be exceeded if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions above.)</p>
WA.10.12.CO. Dischargers with permits must meet compliance schedule standards (5 CCR 1002-61, Sections 61.8(5)(b)) [Citation Revised May 1998].	<p>(NOTE: Moved from WA.15.13.CO.; March 2004.)</p> <p>Verify that the discharger is meeting the requirements of its permit compliance schedule.</p> <p>Verify that, within 14 days following each interim date and the final compliance date, the discharger provides the Division with written notice of compliance or noncompliance with the interim or final requirements.</p>
WA.10.13.CO. [Deleted March 2007].	<p>(NOTE: See WA.10.10.CO. for noncompliance notification requirements.)</p>
WA.10.14.CO. Domestic wastewater treatment works must meet specific notification standards (5 CCR 1002-61, Section 61.8(7)(c)) [Citation Revised May 1998; Revised March 2004; Revised	<p>(NOTE: Moved from WA.15.15.CO.; March 2004.)</p> <p>Verify that, for permitted discharges from a domestic wastewater treatment works, the discharger provides notice to the Division of the following within 30 days of knowledge of:</p> <ul style="list-style-type: none"> - any new introduction of pollutants into domestic wastewater treatment

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<p>March 2007].</p> <p>WA.10.15.CO. Permitted wastewater facilities transferring ownership must meet specific notification standards (5 CCR 1002-61, Section 61.8(6)(b)) [Citation Revised May 1998; Revised March 2004].</p> <p>WA.10.16.CO. Permitted wastewater dischargers must meet monitoring, recording, and reporting requirements (5 CCR 1002-61, Section 61.8(4)) [Citation Revised May 1998; Revised March 2004].</p>	<p>works, from a source that would be a new source as defined in Section 301 and 306 of the Federal CWA</p> <ul style="list-style-type: none"> - any substantial change in volume or character of pollutants being introduced into such treatment works by a source introducing pollutants into such works at the time of issuance of the permit. <p>(NOTE: Moved from WA.15.16.CO.; March 2004.)</p> <p>Verify that the following conditions have been met in order for a permit to be automatically transferred to a new permittee, unless the Division determines otherwise under Federal regulations:</p> <ul style="list-style-type: none"> - the current permittee notifies the Division in writing 30 days in advance of the proposed transfer date - the notice includes a written agreement between the existing and new permittee containing a specific date for transfer of permit responsibility, coverage, and liability. - the Division does not notify the existing permittee and the proposed new permittee of its intent to modify or revoke and reissue the permit. <p>(NOTE: Moved from WA.15.17.CO.; March 2004.)</p> <p>Verify that the permitted wastewater discharger meets any monitoring, recording, and reporting requirements specified by the Division.</p> <p>Verify that the following is monitored by the permitted installation:</p> <ul style="list-style-type: none"> - the concentration (or other measurement specified in the permit) for each pollutant listed in the permit - the volume of effluent discharged from each outfall. <p>Verify that all records of monitoring activities and results include the following for all samples:</p> <ul style="list-style-type: none"> - the date, type, exact place, and time of sampling or measurements - the individual who performed the sampling or measurements - the date analyses were performed - the individual who performed the analyses - the analytical technique or methods used - the results of such analyses. <p>Verify that the permitted wastewater discharger retains for a minimum of 3 yr records of all monitoring information, including the following:</p> <ul style="list-style-type: none"> - original strip chart recordings for continuous monitoring instrumentation

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<p>WA.10.17.CO. Storm water discharges associated with Phase II discharges must be permitted (5 CCR 1002-61, Section 61.3(f)) [Added March 2002; Citation Revised March 2009; Citation Revised March 2010].</p>	<ul style="list-style-type: none"> - all calibration and maintenance records copies of all reports required by this permit - records of all data used to complete the application for this permit. <p>(NOTE: Moved from WA.15.18.CO.; March 2004.)</p> <p>Verify that the following discharges composed entirely of stormwater are covered under a Phase II Municipal Stormwater Permit:</p> <ul style="list-style-type: none"> - a stormwater discharge associated with industrial activity from a facility that is not authorized by a general or individual permit, that is owned or operated by a municipality with a population of less than 100,000 (based on the 1990 census) - a stormwater discharge associated with small construction activity - a stormwater discharge that the Division determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to state waters - any construction activity designated by the Division, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to State waters - a discharge from a regulated small municipal separate storm sewer system (MS4). <p>(NOTE: Stormwater discharge associated with small construction activity means the discharge of stormwater from construction activities, including clearing, grading, and excavating, that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility.)</p> <p>(NOTE: Regulated small MS4s include:</p> <ul style="list-style-type: none"> - small MS4s located in an urbanized area as determined by the latest Decennial Census by the Bureau of the Census. (If the small MS4 is not located entirely within an urbanized area, only the portion that is within the urbanized area is regulated) - publicly-owned systems similar to separate storm sewer systems in municipalities, such as systems at military bases, and large education, hospital or prison complexes, if they are designed for a maximum daily user population (residents and individuals who come there to work or use the MS4's facilities) of at least 1000, and are located in an urbanized area - small MS4s designated by the Division.)

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WA.10.18.CO. Phase II Municipal Stormwater permittees must adhere to specific permit requirements (5 CCR 1002-61, Sections 61.8(11)(a)(i) through (vi)) [Added March 2002; Revised March 2004; Citation Revised March 2010].	<p>(NOTE: Moved from WA.15.19.CO.; March 2004.)</p> <p>Verify that at a minimum, the MS4 permit holder develops, implements, and enforces a stormwater management program designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Colorado Water Quality Control Act (25-8-101 et seq., C.R.S.).</p> <p>Verify that the stormwater management program includes the following:</p> <ul style="list-style-type: none"> - a public education and outreach program - public notice - an illicit discharge detection and elimination system - a construction site runoff control system - a program to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the small MS4 - post-construction stormwater management in new development and redevelopment - pollution prevention/good housekeeping for municipal operations - a training program to prevent or reduce pollution from municipal operations. <p>Verify that the permittee complies with any more stringent effluent limitations in the permit, including permit requirements that modify, or are in addition to, the minimum control measures.</p> <p>Verify that the permittee complies with all other applicable CDPS permit requirements, standards and conditions established in the individual or general permit.</p> <p>(NOTE: A permittee may rely on another entity to satisfy its CDPS permit obligations to implement a minimum control measure, or component thereof, if:</p> <ul style="list-style-type: none"> - the other entity, in fact, implements the control measure - the particular control measure, or component thereof, is at least as stringent as the corresponding CDPS permit requirement - the other entity agrees to implement the control measure on behalf of the permittee. <p>Verify that the permittee specifies to the Division in the reports that they are relying on another entity to satisfy some of its permit obligations.</p> <p>(NOTE: The permittee remains responsible for compliance with its permit obligations if the other entity fails to implement the control measure.)</p>
WA.10.19.CO. Phase II Municipal Stormwater	<p>(NOTE: Moved from WA.15.20.CO.; March 2004.)</p>

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permittees must adhere to recordkeeping and reporting requirements (5 CCR 1002-61, Section 61.8(11)(a)(vii)) [Added March 2002; Citation Revised March 2004; Citation Revised March 2010].	<p>Verify that the permittee keeps all records required by the permit for at least three (3) yr.</p> <p>Verify that the permittee makes the records, including a description of the permittees stormwater management program, available to the public at reasonable times during regular business hours.</p> <p>Verify that the permittee submits annual reports to the Division for the permittees first permit term.</p> <p>Verify that for subsequent permit terms, the permittee submits reports in years two and four unless the Division requires more frequent reports.</p>

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WA.15. STATE PERMITS		
WA.15.1.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.1.CO.; March 2004.)
WA.15.2.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.2.CO.; March 2004.)
WA.15.3.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.3.CO.; March 2004.)
WA.15.4.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.4.CO.; March 2004.)
WA.15.5.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.5.CO.; March 2004.)
WA.15.6.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.6.CO.; March 2004.)
WA.15.7.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.7.CO.; March 2004.)
WA.15.8.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.8.CO.; March 2004.)
WA.15.9.CO. March 2004].	[Moved	(NOTE: Moved to WA.9.20.CO.; March 2004.)

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WA.15.10.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.10.CO.;March 2004.)
WA.15.11.CO. May 1998].	[Deleted	
WA.15.12.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.11.CO.;March 2004.)
WA.15.13.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.12.CO.;March 2004.)
WA.15.14.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.13.CO.;March 2004.)
WA.15.15.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.14.CO.;March 2004.)
WA.15.16.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.15.CO.;March 2004.)
WA.15.17.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.16.CO.;March 2004.)
WA.15.18.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.17.CO.;March 2004.)
WA.15.19.CO. March 2004].	[Moved	(NOTE: Moved to WA.10.18.CO.; March 2004.)

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WA.15.20.CO. [Moved March 2004].	(NOTE: Moved to WA.10.19.CO.; March 2004.)

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WA.20. TREATMENT WORKS WA.20.1.CO. Domestic wastewater treatment works must have approval by the Division before enlarging or constructing a domestic wastewater treatment works (5 CCR 1002-22, Sections 22.3 and 22.4) [Citation Revised May 1998; Revised March 2005]. WA.20.2.CO. [Deleted March 2008]. WA.20.3.CO. [Deleted March 2008]. WA.20.4.CO. [Deleted May 1998]. WA.20.5.CO. Municipal and domestic discharges in the Dillon Reservoir watershed must meet effluent limitations for total phosphorus (5 CCR 1002-71, Sections 71.4 and 71.7) [Citation Revised May 1998].	<p>Verify that the domestic wastewater treatment works has approval from the Division before beginning to enlarge or construct a domestic wastewater treatment works.</p> <p>(NOTE: Deleted March 2008; Colorado has adopted the Federal requirements at 40 CFR 403.8.)</p> <p>(NOTE: Deleted March 2008; Colorado has adopted the Federal requirements at 40 CFR 403.8.)</p> <p>(NOTE: Deleted May 1998.)</p> <p>Verify that no new or existing municipal or domestic wastewater treatment plant treating more than 2000 gal/day in the Dillon Reservoir watershed discharges an effluent with a total phosphorus concentration greater than 0.5 mg/L, as a daily maximum.</p> <p>(NOTE: In the case of discharges from a dispersal system, this concentration must be documented either entering or leaving the dispersal system.)</p> <p>Verify that the discharger has monitoring equipment for total phosphorus that is approved by the Department.</p> <p>Verify that monitoring of point sources occurs, at a minimum, on a monthly basis.</p> <p>(NOTE: Local regulations are used to control nonpoint sources of total</p>

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<p>WA.20.6.CO. Municipal, domestic, and industrial discharges in the Cherry Creek Basin must meet effluent limitations for total phosphorus (5 CCR 1002-72, Sections 72.4(4) and (5)) [Citation Revised May 1998; Revised March 2002; Revised March 2010].</p>	<p>phosphorus.)</p> <p>Verify that no industrial process wastewater source or wastewater facility within the Cherry Creek watershed discharges an effluent with a total phosphorus concentration greater than 0.05 mg/l total phosphorus as a 30-day average</p> <p>Verify that no discharger using land application discharges a 30-day flow weighted average phosphorus concentration at any site that is greater than 0.05 mg/l total phosphorus divided by the land application return flow factor.</p> <p>Verify that no land application with a return flow factor e discharges a 30-day flow-weighted average phosphorus concentration greater than 0.05 mg/l divided by the return flow factor e.</p> <p>NOTE: For purposes of this regulation, return flow factors for land application sites are determined as follows:</p> <ul style="list-style-type: none"> - for land application sites with decreed augmentation plans, the return flow factor shall be determined from the applicable augmentation plan - for land application sites with available studies of return flow factors, but no approved augmentation plan, the return flow factor may be determined upon Division approval from the study results - where no approved augmentation plan or available study exists, or where the Division has not approved the use of an available study, lysimeters shall be installed in accordance with a plan approved by the Division and readings from such lysimeters will be used to determine the monthly volume discharged at each land application site.) <p>Verify that, where land application is relying on lysimeters to determine the amount of water returned to ground water, the effluent concentration prior to being applied to the land does not exceed 1.0 mg/l total phosphorus as a thirty-day flow weighted average.</p> <p>(NOTE: At the request of a permittee, the Division is authorized to allow up to a 90-day averaging period for this limit in the discharge permit or in the notice of authorization.)</p>
<p>WA.20.7.CO. Wastewater treatment facilities in the Bear Creek Basin must meet effluent limitations for total phosphorus (5 CCR 1002-74, Sections 74.3 and 74.5) [Citation Revised May 1998; Revised March 2010].</p>	<p>Verify that, unless authorized by the Division, wastewater treatment facilities in the Bear Creek Basin do not exceed a total phosphorus effluent concentration of 1.0 mg/L as a 30-day average.</p> <p>(NOTE: The Jefferson County, Clear Creek County, Park County, municipalities, and districts in the Bear Creek Basin have the responsibility for nonpoint source pollution.)</p>

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<p>WA.20.8.CO. Municipal, domestic, and industrial discharges in the Chatfield Basin must meet effluent limitations for total phosphorus (5 CCR 1002-73, Sections 73.3 and 73.5) [Citation Revised May 1998].</p>	<p>Verify that no point source discharges in the Chatfield Basin exceed a total phosphorus effluent concentration of 1.0 mg/L as a 30-day average.</p> <p>(NOTE: The counties, municipalities, districts, corporations, proprietorships, agencies, or other entities with responsibility for activities or facilities that cause or could reasonably be expected to cause nonpoint source pollution of waters in the Chatfield Basin shall jointly submit an annual report.)</p>
<p>WA.20.9.CO. Wastewater treatment plants must meet operator certification requirements (5 CCR 1003-2, Sections 100.17.1, 100.18, 100.19.1 and 100.21) [Revised March 2001; Revised March 2002; Revised March 2006].</p>	<p>Verify that no owner of a wastewater facility allows the facility to be operated without the direct supervision of an operator in responsible charge certified in a classification equivalent to or higher than the classification of the facility.</p> <p>(NOTE: For purposes of this regulation, "direct supervision" means that the operator in responsible charge has supervisory responsibility and authority with respect to the activities and functions of other facility operators.)</p> <p>Verify that the operator in responsible charge of a wastewater facility holds a valid certificate equal to or greater than the classification of the wastewater facility he or she operates.</p> <p>(NOTE: A separate facility classification applies to small wastewater systems serving no more than 3300 persons and which would be classified as a class "D" wastewater treatment facility and as a class "1" wastewater collection system under the provisions of this regulation.)</p> <p>(NOTE: "Operator in responsible charge" means the person designated by the owner of the wastewater facility to be the certified operator(s) who has ultimate responsibility for decisions regarding the daily operational activities of the facility that will directly impact the quality and/or quantity of treated wastewater, or treated effluent.)</p> <p>(NOTE: Operators of wastewater collection systems certified prior to 30 January 2001 under the voluntary program administered by the Colorado Water and Wastewater Collection Systems Certification Council, Inc., are considered compliant with the certification requirements of this provision. Existing operators, whose responsibility includes making process control and/or system integrity decision about water quality or quantity that may affect the public health or environment, of existing wastewater collection systems as of 30 January 2001, who have not been certified under the voluntary program administered by the Council, or who hold restricted certificates under the version of the operators certification regulations in effect prior to 30 January 2001, may continue to operate the specific system in which they are currently employed for a period of 2 yr from the issuance of an authorization for continued operation without meeting the certification requirements of this regulation, provided that they have the</p>

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<p>WA.20.10.CO. [Deleted March 2001].</p>	<p>requisite minimum experience levels provided in section 100.9 and so long as the following requirements are satisfied:</p> <ul style="list-style-type: none"> - the owner of the existing wastewater collection system applies to the Board for issuance of an authorization for the operator to continue operation without compliance with the otherwise applicable certification requirements, within one yr of 30 January 2001 - the operator does not operate any other system until he or she meets the initial certification requirements for that system and obtains a certificate appropriate for that system - within 2 yr from the issuance of an authorization for continued operation under this provision, the operator obtains a certificate, restricted to the operation of the specific system, by meeting all requirements for obtaining certificate renewal including payment of fees, acquiring the minimum training units, and demonstrating to the Board or its designee all requisite skills, knowledge, ability and judgment for the type of system.) <p>(NOTE: Existing operators, who hold restricted certificates under the version of the operators certification regulations in effect prior to 30 January 2001, may continue to operate the specific system in which they are currently employed for a period of two yr from the issuance of an authorization for continued operation without meeting the certification requirements of this regulation, provided that they have the requisite minimum experience levels and so long as the requirements set forth in the note above are satisfied.)</p> <p>(NOTE: Consolidated with WA.20.9.CO. above.)</p>

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<p>WA.25.</p> <p>DISCHARGES TO A POTW/FOTW</p> <p>WA.25.1.CO. [Deleted March 2010].</p>	<p>(NOTE: 5 CCR 1002-63 Section 11 incorporates 40 CFR 403.8 (Pretreatment Program Requirements: Development and Implementation by POTW) by reference. This is from the Code of Federal Regulations dated November 14, 2005, and does not include later amendments to, or editions of the incorporated material.)</p>

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<p>WA.95.</p> <p>OTHER DISCHARGES AND DISCHARGERS</p> <p>WA.95.1.CO. Animal Feeding Operations (AFO) at risk of being designated a Concentrated Animal Feeding Operations (CAFO) must meet specific requirements (5 CCR 1002-81, Section 81.4) [Citation Revised May 1998; Revised March 2005; Citation Revised March 2008; Revised March 2009].</p> <p>WA.95.2.CO. Non-permitted large CAFOs must register with the Division (5 CCR 1002-81, Section 81.5) [Citation Revised May 1998; Revised April 2003; Revised March 2005; Revised March 2009; Revised March 2010].</p>	<p>(NOTE: No AFO with animal numbers below those established for a Medium CAFO will be designated as a CAFO unless:</p> <ul style="list-style-type: none"> - pollutants are discharged into waters of the U.S. through a manmade ditch, flushing system, or other similar manmade device from the animal feeding operation - pollutants from the animal feeding operation are discharged directly into waters of the U.S. that originate outside of the facility and pass over, across, or through the facility or otherwise come into contact with the animals confined in the operation.) <p>Verify that, where an AFO is at risk of being designated a CAFO, the AFO operator submits to the Division, within 60 days of receiving written notice by the Division of such a risk, one of the following:</p> <ul style="list-style-type: none"> - in consultation with the Division, an approvable work plan and associated timeline for reducing actual or potential environmental impacts so that the Division would not designate the AFO as a CAFO and implementation of the plan within 30 days of it being approved by the Division - a written statement indicating the operator's intention to operate as a CAFO and submit a complete application to be covered under a CAFO discharge permit within 180 days of the date of such statement or comply with all of the CAFO surface and ground water protection provisions of Section 81. <p>(NOTE: Where an operator does not complete and implement a work plan or does not submit a written statement, the AFO may be designated a CAFO by the Division and be required to submit a complete application to be covered under a CAFO discharge permit within 90 days of receiving written notice by the Division of such a designation and permit application requirement.)</p> <p>Verify that the operator of a large non-permitted CAFO registers the facility with the Division no later than February 27, 2009.</p> <p>Verify that the registration include the following information about the facility:</p> <ul style="list-style-type: none"> - legal name - names of legal owner and current operator - facility phone number - physical address - mailing address - county in which the facility exists

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<p>WA.95.3.CO. Concentrated animal feeding operation impoundments must meet specific requirements (5 CCR 1002-81, Section 81.8(2)) [Citation Revised May 1998; Revised March 2005; Revised March 2010].</p>	<ul style="list-style-type: none"> - latitude/longitude coordinates at the entrance of the facility and source of the datum - maximum number and type of all animals the facility will confine in the production area - a Standard Operating Procedure (SOP) for removal of manure from impoundments unless the facility has previously submitted such an SOP. <p>Verify that if any of the above information changes, the operator submits to the Division a revised registration by no later than 30 days after a change occurs.</p> <p>(NOTE: See Appendix 12-15 for additional details)</p> <p>Verify that an impoundment at a concentrated animal feeding operation is constructed and maintained to comply with one of the following standards, as applicable:</p> <ul style="list-style-type: none"> - the seepage rate from an impoundment does not exceed 1×10^{-6} cm/sec - the seepage rate from the impoundment does not exceed 7.35×10^{-6} cm/sec, where approved by the Division for an impoundment with an earthen liner <p>Verify that the CAFO operators have available documentation, prepared by a professional engineer registered in Colorado certifying that the above seepage provisions have been met, and stating what constitutes each constructed liner (e.g., synthetic, clay).</p> <p>(NOTE: For impoundments constructed prior to June 30, 2004, the liner certification shall be available no later than April 13, 2006. For any impoundment constructed by an operator on or after June 30, 2004 and before February 27, 2009, the liner certification shall be available prior to wastewater entering the impoundment. For any impoundment constructed by an operator on or after February 27, 2009, the liner certification and, where applicable, the seepage rate calculations using Darcy's Law shall be available prior to wastewater entering the impoundment.)</p> <p>Verify that a CAFO operator visually inspects the exposed liner and corrects any noted deficiencies and physical changes within 30 days of having been identified.</p> <p>Verify that the operator record the date of the inspection, deficiencies identified, corrective actions taken, and dates that corrective action was completed.</p> <p>Verify that deficiencies not corrected within 30 days are accompanied by an explanation of the factors preventing completion of corrective actions within this time period.</p> <p>Verify that the records are maintained on-site for 5 years from the date of creation.</p>

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<p>WA.95.4.CO. Removal of manure or wastewater from CAFO impoundments must meet operational requirements (5 CCR 1002-81, Section 81.8(3) and (4)) [Citation Revised May 1998; Revised April 2003; Revised March 2005; Revised March 2010].</p>	<p>(NOTE: See Appendix 12-15 for additional details)</p> <p>Verify that removal of manure or wastewater from an impoundment is accomplished in a manner that does not damage the integrity of the liner.</p> <p>Verify that the operator submits to the Division for approval a Standard Operating Procedure (SOP) that demonstrates how manure, including sludge, will be removed so that the liner integrity of impoundments is not damaged, and the expected frequency with which manure will be removed from impoundments.</p> <p>Verify that the operator follows the approved SOP whenever manure, including sludge, is removed.</p> <p>Verify that a CAFO submits the SOP no later than 120 days after animals are placed on the production area.</p> <p>Verify that the operator certifies after each manure or sludge removal event that the manure or sludge was removed in accordance with the approved SOP.</p> <p>Verify that certifications and the approved SOP are available on-site and be submitted to the Division upon request.</p> <p>Verify that, when the SOP is not followed, the operator provides notice to the Division within 30 days of the date of manure removal.</p> <p>Verify that, for a concrete-lined impoundment, where a certification for each removal event is not completed, the operator drains and cleans the impoundment every five years and uses best professional judgment to determine whether the liner integrity is damaged such that the impoundment is no longer capable of having a maximum seepage rate of 1×10^{-6} cm/sec</p> <p>Verify that any depth marker in an impoundment is installed in a manner that maintains the integrity of the liner and maintains the required seepage rate standard.</p> <p>(NOTE: Where the SOP is not followed, the Division may require that the operator make the liner available for inspection. Where the Division has just cause as a result of the inspection, the Division may require re-certification of the liner.).</p> <p>(NOTE: See Appendix 12-15 for additional details)</p>
<p>WA.95.5.CO. Concentrated animal feeding operations using earthen conveyance structures must meet specific</p>	<p>Verify that earthen conveyance structures are maintained to minimize ponding of wastewater.</p> <p>Verify that, where constructed in soils that have 35-60 percent gravel, conveyance</p>

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<p>requirements (5 CCR 1002-81, Section 81.8(5)) [Citation Revised May 1998; Revised March 2005; Citation Revised March 2010].</p>	<p>structures that carry open-lot wastewater are constructed by sufficiently compacting the existing soil material (less than 60 percent gravel) in place with at least two passes of rubber-tired construction equipment, four passes of track-type equipment, or equivalent, over the entire surface of the conveyance structure.</p> <p>(NOTE: Moisture content of the soil material during compaction shall be maintained to promote sufficient compaction of the in-place materials. The soil should be wet to the touch and leave a stain on the hand when squeezed.)</p> <p>Verify that, where constructed in soils that have greater than 60 percent gravel, or in loamy sand or sandy soils with greater than 35 percent gravel, a conveyance structure is constructed by placing a compacted liner over the entire surface of the conveyance structure.</p> <p>Verify that, where a conveyance structure liner is constructed of soils having less than 60 percent gravel, it is 12 inches thick, and is compacted with at least two passes of rubber-tired construction equipment, four passes of track-type equipment, or equivalent, over the entire surface of the conveyance structure.</p> <p>(NOTE: Moisture content of the soil material during compaction shall be maintained to promote sufficient compaction of the soil liner material. The soil should be wet to the touch and leave a stain on the hand when squeezed. In addition, the constructed liner shall be maintained to retain these standards.)</p> <p>Verify that, where the conveyance structure is constructed in soils having less than 35 percent gravel, a conveyance structure does not need to be lined or compacted.</p> <p>Verify that conveyance structures that carry process-generated wastewater intermittently (greater than 48 hours between conveyance events) are constructed and maintained in accordance with the standards specified for soils that have greater than 60 percent gravel (see above).</p> <p>Verify that conveyance structures that carry process-generated wastewater non-intermittently (48 hours or less between conveyance events) (e.g., pipe or concrete) nonintermittently are constructed and maintained to have a maximum seepage rate of 1×10^{-6} cm/sec.</p> <p>(NOTE: Where upon inspection the Division has just cause to determine that the required liner is not in place, the Division may require that the operator submit to the Division a certification that the conveyance structure meets the applicable requirements. The certification shall be made by a professional engineer registered in the State of Colorado.)</p> <p>(NOTE: See Appendix 12-15 for additional details)</p>
<p>WA.95.6.CO. Concentrated animal feeding operations</p>	<p>Verify that a completely new impoundment constructed after June 30, 2008 and an existing impoundment that is expanded by 50 percent or more of existing</p>

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<p>must meet protect groundwater (5 CCR 1002-81, Section 81.8 (6) and (7)) [Revised March 2005; Revised March 2010].</p>	<p>storage capacity after June 30, 2008 are not located:</p> <ul style="list-style-type: none"> - where the seasonally high ground water level is located within 4 feet of the bottom of the impoundment liner; and - if the seasonally high ground water level is located within 4 feet of the bottom of the impoundment liner, the impoundment is constructed and maintained in accordance with the design by a professional engineer registered in the state of Colorado that prevents ground water from contacting the impoundment's liner - within 150 feet of a private domestic water supply well - within 300 feet of a community domestic water supply well. <p>(NOTE: Where an impoundment is not in compliance with liner requirements, or where the Division determines that an impoundment liner is not being properly maintained, the Division may require the operator to conduct site-specific ground water quality monitoring of, but not limited to, total nitrogen, ammonia-nitrogen, nitrate-nitrogen, and fecal coliform.)</p> <p>Verify that any Division required ground water monitoring is conducted.</p> <p>(NOTE: See Appendix 12-15 for additional details)</p>
<p>WA.95.7.CO. Concentrated animal feeding operations must meet impoundment closure requirements (5 CCR 1002-81, Section 81.5(9)) [Citation Revised May 1998; Revised March 2005; Revised March 2010].</p>	<p>Verify that a closed facility removes manure and wastewater from all impoundments, to the fullest extent practicable, within 60 days of the impoundment being closed, unless an alternative timeline is approved by the Division</p> <p>Verify that within 120 days of an impoundment being closed, earthen impoundments are backfilled with soil that is graded to blend with surface topography and prevent ponding, unless an alternative procedure and timeline is approved by the Division.</p>
<p>WA.95.8.CO. Animal feeding operations must utilize best management practices as appropriate (BMPs) (5 CCR 1002-81, Section 81.9) [Citation Revised May 1998; Revised March 2005; Revised March 2009].</p>	<p>Verify that animal feeding operations use the following BMPs where practicable:</p> <ul style="list-style-type: none"> - divert runoff from uncontaminated areas away from animal confinement areas and manure and process wastewater control facilities to the maximum extent practicable by: <ul style="list-style-type: none"> - constructing ditches, terraces, or other waterways - installing gutters, downspouts, and buried conduits to divert roof drainage - constructing roofed areas over animal confinement areas everywhere it is practicable - decrease open lot surface area by: <ul style="list-style-type: none"> - reducing lot size - improving lot surfacing to support increased animal density

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	<ul style="list-style-type: none"> - providing roofed areas to the maximum extent practicable - eliminating animal confinement areas and manure and process wastewater control facilities in areas that slope in directions such that wastewater/rainfall cannot be controlled - decrease water volume by: <ul style="list-style-type: none"> - repairing and adjusting waterers and water systems to minimize water wastage - using lowest practical amounts of water for manure and process wastewater flushing - recycling water used for flushing manure from paved surfaces or housed confinement areas if practical and applicable. <p>Verify that animal feeding operations use the following BMPs to decrease wastewater discharges to surface water:</p> <ul style="list-style-type: none"> - collect and allow process-generated wastewater to evaporate <ul style="list-style-type: none"> - for Medium AFOs, design, construct, and maintain an impoundment(s) that is capable of storing, at minimum, the volume of all liquid manure and process-generated wastewater for 180 days, at minimum - collect and evenly apply wastewater to land application sites at agronomic rates: <ul style="list-style-type: none"> - for Medium AFOs, design, construct, and maintain an impoundment(s) that is capable of storing, at minimum, the volume of all liquid manure and process-generated wastewater for 120 days, at minimum - the operator keeps records demonstrating that wastewater has been applied to each land application site at an agronomic rate: <ul style="list-style-type: none"> - records are maintained on-site for 5 years from the date they are created and made available to the Division or its designee, upon request - treat wastewater through use of one of the following: <ul style="list-style-type: none"> - a wastewater treatment strip (inflow to a wastewater treatment strip is pretreated by a solid/liquid waste separation facility, as appropriate based upon site constraints and to have the wastewater treatment strip adequately assimilate pollutants - a method approved by the Division - animals do not have direct contact with surface water - operators do not deposit waste which might pollute waters of the state in such locations that storm water run-off or normally expected high stream flow will carry the waste into the waters of the state - wastewater retention structures is not located within a mapped 100 year flood plain as designated by the Colorado Water Conservation Board (CWCB) unless proper flood proofing measures (structures) are designed and constructed - the operator manages animal mortalities in a manner that prevents a discharge of pollutants to surface water. <p>Verify that, if a stock watering point is used where animals have access to no other source of drinking water, it is cleaned frequently of manure and has</p>

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	<p>wastewater diverted at the watering point entry.</p> <p>Verify that animal feeding operations use the following BMPs to minimize manure transport to surface water:</p> <ul style="list-style-type: none"> - manure stockpiles are located away from surface water, above the 100 year flood plain as designated and approved by CWCBC, unless adequate flood proofing structures are provided, and bermed to minimize runoff - operators of animal feeding operations provide adequate manure storage capacity based upon manure and wastewater production - settleable solids are removed by the use of solids-setting basins, terraces, diversions, or other solid removal methods (Construction of solids-settling facilities shall not be required where the Division determines existing site conditions provide adequate settleable solids removal.) - removal of settleable manure and wastewater solids are considered adequate when the velocity of waste flows has been reduced to less than 0.5 foot per second for a minimum of five minutes (Sufficient capacity shall be provided in the solids-settling facilities to store settled solids between periods of manure and wastewater disposal.) - apply manure to land application sites at an agronomic rate: <ul style="list-style-type: none"> - the operator keeps records on site for 5 years from the date they are created demonstrating that manure has been applied to each land application site at an agronomic rate - avoid applications on saturated soils and lands subject to excessive erosion - operators of animal feeding operations use edge-of-field, grassed strips, filter fences or straw bales to separate eroded soil and manure particles from the field runoff - collect manure frequently. <p>Verify that animal feeding operations use the following BMPs to protect groundwater:</p> <ul style="list-style-type: none"> - operators of animal feeding operations locate manure and wastewater management facilities hydrologically downgradient and a minimum horizontal distance of 150 feet from all water supply wells - when applying manure and wastewater to land, operators of animal feeding operations utilize a buffer area around water wells sufficient to prevent the possibility of waste transport to groundwater via the well or well casing - an impoundment at a Medium AFO have a liner that is constructed and maintained such that the seepage rate from the impoundment does not exceed 1×10^{-6} cm/sec <ul style="list-style-type: none"> - maintain documentation prepared by a professional engineer registered in Colorado certifying that each impoundment has a liner that does not allow a seepage rate in excess of 1×10^{-6} cm/sec: <ul style="list-style-type: none"> - for an impoundment constructed on or prior to December 31, 2008, documentation is on-site no later than May 30, 2011 - for an impoundment constructed after December 31, 2008, documentation is available prior to wastewater entering the impoundment

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<p>WA.95.9.CO. Housed commercial swine feeding operations must meet permit requirements (5 CCR 1002-61, Section 61.13(2)) [Citation Revised May 1998].</p>	<p>- where the Division determines that an animal feeding operation, other than a Medium AFO, could adversely affect ground water quality, the operator of such an AFO installs a liner in all impoundments such that the seepage rate from each impoundment does not exceed 1×10^{-6} cm/sec.</p>
<p>WA.95.10.CO. All Concentrated Animal Feeding Operations (CAFOs) must meet permit requirements (5 CCR 1002-61, Section 61.17 (5)) [Citation Revised May 1998; Revised March 2007; Revised March 2008].</p>	<p>Verify that no housed commercial swine feeding operations are operated, constructed, or expanded without first obtaining an individual discharge permit from the Division.</p> <p>Verify that all CAFOs have an individual discharge permit.</p> <p>Verify that, for operations defined as CAFOs as of June 30, 2004, and that were not defined as CAFOs prior to that date, a permit application is submitted by February 27th, 2009.</p> <p>Verify that, for other operations (e.g., resulting from an increase in the number of animals), a permit application is submitted as soon as possible, but no later than 90 days after becoming defined as a CAFO.</p> <p>(NOTE: If the operational change would not have made the operation a CAFO prior to June 30, 2004, then the operator has until February 27th, 2009 to submit a permit application.)</p> <p>Verify that the operator of a new source CAFO applies for a permit at least 180 days prior to the time that the operator places animals on the operation.</p> <p>(NOTE: The operator of a Large CAFO may request the Division to make a case-specific determination of whether the operation has "no potential to discharge" pollutants to surface waters under any circumstances or conditions.)</p>
<p>WA.95.11.CO. All non-permitted Large Concentrated Animal Feeding Operations (CAFOs) must prepare facility management plans (FMPs) (5 CCR 1002-81, Section 81.6) [Added March 2009].</p>	<p>Verify that the operator of a non-permitted Large CAFO compiles a facility management plan (FMP) that includes, to the extent applicable, the following sections:</p> <ul style="list-style-type: none"> - surface water protection elements for the production area - surface water protection elements for the land application sites - ground water protection elements for the production area. <p>(NOTE: See Appendix 12-14 for detailed requirements for the FMP.)</p>

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<p>WA.95.12.CO. All non-permitted Large Concentrated Animal Feeding Operations (CAFOs) must meet specific performance, recordkeeping and reporting standards (5 CCR 1002-81, Section 81.7) [Added March 2009].</p>	<p>Verify that there is no discharge of manure or wastewater from the production area of a non-permitted Large CAFO to waters of the U.S. without a discharge permit.</p> <p>Verify that there is no discharge of manure or wastewater from the production area to surface water, except whenever precipitation causes a discharge, and that the production area is designed, constructed, operated, and maintained to contain all manure and wastewater, including the runoff and direct precipitation from a 25-year, 24-hour storm or Chronic Storm, whichever is greater.</p> <p>: The discharge of manure and wastewater to waters of the U.S. from a CAFO as the result of the application of that manure or wastewater by the CAFO to a land application site is a discharge from that CAFO subject to permit requirements, except where it is an agricultural storm water discharge. Where the manure or wastewater has been applied in accordance with the requirements of sections 81.6(2)(a-d) (see WA.95.11.CO. above), a precipitation-related discharge of manure or wastewater from the site to waters of the U.S. is an agricultural storm water discharge.)</p> <p>Verify that manure and wastewater are not applied directly to surface water.</p> <p>Verify that the operator creates, maintains at the facility for five years from the date they are created, and makes available to the Division or its designee, upon request, the following records:</p> <ul style="list-style-type: none"> - a copy of its current FMP compiled and maintained in one discrete place at the facility, such as an office or filing cabinet - the land application records - weekly records of the depth of the manure and wastewater as indicated by the depth markers in the impoundments, or as indicated by an alternative method approved by the Division - the records and certifications specified in the FMP (see WA.95.11.CO. above for details). <p>Verify that the operator notifies the Division of a discharge of manure or wastewater to surface water, and that:</p> <ul style="list-style-type: none"> - notification is made by telephone, electronic mail, or facsimile within 24 hours after the operator becomes aware of the discharge - the notification describes, at minimum, the date, time, causes of the discharge, approximate volume of the discharge, the estimated length of time of the discharge, the level of wastewater in the discharging impoundment(s), and whether the discharge entered, or could enter, waters of the U.S.

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WA.95.13.CO. [Deleted March 2010].	(NOTE: 5 CCR 1002-81 is found in WA.95.2.CO. through WA.95.7.CO.	

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WA.100 INDIVIDUAL SEWAGE SYSTEMS WA.100.1.CO. Individual sewage systems require a permit prior to construction or alteration of the system (5 CCR 1003-6, Section IV) [Added May 1998; Revised March 2010]. WA.100.2.CO. Individual sewage systems must meet location requirements (5 CCR 1003-6 Section VIII(17)) [Added May 1998; Citation Revised March 2010]. WA.100.3.CO. Individual sewage systems that discharge into State waters must meet additional requirements (5 CCR 1003-6 Section XII) [Added May 1998; Citation Revised March 2010]. WA.100.4.CO. Individual sewage systems must meet closure requirements (5 CCR 1003-6 Section XIV(G))	<p>Verify that, prior to commencement of installation, alteration, expanded use, or repair of an individual sewage system, an individual sewage disposal permit has been issued for the construction or alteration of that system by the local health Department.</p> <p>(NOTE: Individual sewage disposal permits expire one yr after the date of issuance if construction has not been commenced or as specified by local board of health regulations and any change in plans or specifications after the permit has been issued invalidates the permit unless written approval is secured from the health officer.)</p> <p>Verify that, in the event that the individual sewage system is not functioning properly, a repair permit and an emergency use permit has been obtained from the local health Department.</p> <p>Verify that no new or expanded system is installed in a floodway.</p> <p>(NOTE: When a system is installed in a 100-yr floodplain then the new or repaired system must meet or exceed the requirements of the National Flood Insurance Program.)</p> <p>Verify that any system that will dispose of effluent by discharging into State waters is designed by a registered professional engineer.</p> <p>Verify that a permit, approved by the local board of health, has been obtained from the Division.</p> <p>(NOTE: Compliance with such a permit is deemed to be full compliance with all individual sewage disposal system regulations.)</p> <p>Verify that the contents of a septic tank, vault, or seepage pit, the use of which has been terminated, have been properly disposed of.</p> <p>Verify that an emptied tank, vault, or pit is filled with soil or rock, or otherwise</p>

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[Added May 1998].	disposed of in accordance with local health Department requirements

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LAND APPLICATION OF SLUDGE WA.105. General WA.105.1.CO. Treatment works using or distributing biosolids must submit a letter of intent for the use and distribution of biosolids (5 CCR 1002-64, Sections 64.10(A) and (G)) [Citation Revised May 1998; Revised March 2004; Revised March 2008]. WA.105.2.CO. Biosolids applicators must not apply biosolids that fail to meet Grade II requirements to land for beneficial use (5 CCR 1002-64, Section 64.12(A)(2)) [Revised May 1998; Revised March 2003; Revised March 2008]. WA.105.3.CO. Biosolids storage facilities must have a Notice of Authorization for the Use and Distribution of Biosolids (5 CCR 1002-64, Section 64.13) [Citation Revised May 1998].	<p>(NOTE: These requirements apply to any domestic wastewater treatment works, irrespective of whether the domestic wastewater treatment works is required to obtain a Colorado Discharge Permit System permit, when biosolids generated at the domestic wastewater treatment works are withdrawn for beneficial use, and any person other than a domestic wastewater treatment works treating, manipulating, or applying biosolids to land for beneficial purposes.)</p> <p>Verify that the treatment works has submitted a letter of intent for the use and distribution of biosolids to the Division and to the local health authority.</p> <p>Verify that biosolids are not used, distributed for use, or caused to be used for any beneficial use unless a Notice of Authorization for the Use and Distribution of Biosolids has been issued by the Division to a treatment works treating domestic sewage for such use or distribution.</p> <p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that biosolids that exceed the numeric criteria for Table 1 in Appendix 12-3 are not applied to land for beneficial use except as is allowed pursuant to the Colorado Solid Waste Disposal Sites and Facilities Regulations.</p> <p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that biosolids storage facilities have a Notice of Authorization for the Use and Distribution of Biosolids.</p> <p>(NOTE: The following are exempt from having a Notice of Authorization:</p> <ul style="list-style-type: none"> - process components of a domestic wastewater treatment facility which is subject to a Colorado Discharge Permit System permit issued pursuant to Section 25-8-501 of the <i>Act</i>, CRS, 1973, as amended, or to the process components of a domestic wastewater treatment facility site approval and plans and specifications approval pursuant to Section 25-8-701 of the <i>Act</i>, CRS, 1973, as amended

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	<ul style="list-style-type: none"> - components of a solid waste disposal site or facility which has received a Certificate of Designation pursuant to the Solid Wastes Disposal Sites and Facilities Act, CRS 30-20-100.5 et seq., 1973 (as amended) - components of an Individual Sewage Disposal System that is subject to requirements adopted pursuant to the Individual Sewage Disposal Systems Act CRS 25-10-101 et seq., 1975, (as amended) - facilities which are intended for the off-loading of biosolids from vehicles transporting biosolids to an application site and subsequent loading of biosolid into application equipment, notwithstanding any incidental spillage or placement on the land during transfer (such facilities will be bermed or otherwise protected or managed so as to prevent movement of spillage or runoff from the transfer area off of the permitted site) - tankage (such facilities will be bermed or otherwise protected so as to prevent movement of spillage or runoff from the storage area off of the permitted site). <p>Verify that biosolids are not stored unless the biosolids meet the following requirements:</p> <ul style="list-style-type: none"> - at the time the biosolids are placed in the storage facility the biosolids meet the requirements of the Class B pathogen destruction criteria (see Appendix 12-4) - at the time the biosolids are placed in the storage facility the biosolids meet the requirements of one of the vector attraction reduction criteria listed in Appendix 12-5 - biosolids are not stored for more than 2 yr before being removed for use or distribution (a storage facility may operate for an indefinite period as long as the maximum retention time for biosolids stored within the facility does not exceed 2 yr). <p>Verify that biosolid storage facilities storing biosolids with a solids content of 14 percent or greater are operated in a manner that prevents windblown biosolids from escaping the storage facility and meet one of the following requirements:</p> <ul style="list-style-type: none"> - the bottom of the biosolids storage facility is bermed or otherwise protected to prevent movement of spillage or runoff and is constructed of an impermeable material (seepage is less than 1/16 in./day) or has an underdrawn system - the storage facilities is covered and either bermed or otherwise protected to prevent movement of spillage or runoff, or runoff from the cover is collected and directed away from the storage facility. <p>Verify that short-term storage (less than 2 wk or temporary storage for a longer period upon site-specific approval) meets the following requirements:</p> <ul style="list-style-type: none"> - operated in a manner that prevents windblown biosolids from escaping the storage facility - bermed or otherwise protected to prevent movement of spillage or runoff from the storage facilities off of the permitted site.

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<p>WA.105.4.CO. Treatment works which distribute or market biosolids to the public for unrestricted use must meet specific requirements (5 CCR 1002-64, Section 64.14(A)) [Citation Revised May 1998; Revised March 2004].</p>	<p>(NOTE: For storage of biosolids that have a solids content of less than 14 percent at the time they are placed must comply with the waste impoundment criteria described in the Solid Waste Chapter (6 CCR 1007-2).)</p> <p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that treatment works that distribute or market biosolids to the public for unrestricted (lawn and home garden) use have a Notice of Authorization for the Use and Distribution of Biosolids.</p> <p>Verify that the biosolids for unrestricted (lawn and home garden) use meets the following requirements:</p> <ul style="list-style-type: none"> - the biosolid meets the Table 3 Pollutant Concentration Limits with respect to metals listed in Appendix 12-3 - the biosolid meets the criteria for Class A with respect to pathogen destruction listed in Appendix 12-4 - the biosolid meets one of the vector attraction reduction criteria 3 through 10 listed in Appendix 12-5 <p>Verify that, when biosolids are distributed or marketed to the public for unrestricted use, information is made available to the public, in the form of labeling, information sheets, written cautions, or written instructions for use and contain the following minimum requirements:</p> <ul style="list-style-type: none"> - the name and address of the person who prepared the biosolids - the typical concentration of plant nutrients on a dry weight percentage basis including, at a minimum total nitrogen, total phosphorus, and total potassium in the biosolid.
<p>WA.105.5.CO. The distribution or marketing to the public of biosolids for restricted use must meet specific requirements (5 CCR 1002-64, Section 64.14(B)) [Citation Revised May 1998; Revised March 2004].</p>	<p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that the facility has a Notice of Authorization for the Use and Distribution of Biosolids.</p> <p>Verify that the biosolids for restricted use distributed or marketed to the public meet the following requirements:</p> <ul style="list-style-type: none"> - the biosolid meets the numerical requirements for Table 1 Pollutant Concentration Limits with respect to metals listed in Appendix 12-3 - the biosolid meets the criteria for Class A with respect to pathogen destruction listed in Appendix 12-4 - the biosolid meets one of the vector attraction reduction criteria 3 through 10 listed in Appendix 12-5

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<p>WA.105.6.CO. The use or distribution for use of biosolids for any beneficial use must meet specific requirements (5 CCR 1002-64, Section 64.15(A)) [Citation Revised May 1998; Revised March 2004].</p>	<p>Verify that, when biosolids are distributed or marketed to the public for restricted use are considered to be Table 1 limits with respect to metals, information is made available to the public, in the form of labeling, information sheets, written cautions, or written instructions for use and contain the following minimum requirements:</p> <ul style="list-style-type: none"> - the name and address of the person who prepared the biosolids - the typical concentration of plant nutrients on a dry weight percentage basis including, at a minimum total nitrogen, total phosphorus, and total potassium in the biosolid - the maximum allowable annual biosolids application rate as calculated based upon the annual pollutant loading limits defined in Appendix 12-6 and based upon either of the following: <ul style="list-style-type: none"> - the maximum allowable annual biosolids application rate is calculated based upon the most recent 12-mo analysis of the biosolids for the parameters for which numeric limitations are identified in Appendix 12-6. Labeling, information sheets, written cautions, or written instructions for use will identify the maximum allowable annual biosolids application rate for the biosolids based upon the maximum reported values for the 12-mo period and such advisory information will be updated on a monthly basis - the maximum allowable annual biosolids application rate is calculated based upon a value representing the arithmetic average of a minimum of six analyses of the biosolids for the parameters for which numeric limitations are identified in Table 2 plus one standard deviation. Labeling, information sheets, written cautions, or written instructions for use that identify the maximum allowable annual application rate for the biosolids is be updated on a semiannual basis. <p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that any facilities that use, distribute for use, or cause biosolids to be used for any beneficial use have a Notice of Authorization for the Use and Distribution of Biosolids.</p> <p>Verify that no biosolids are applied to land unless the following requirements are met:</p> <ul style="list-style-type: none"> - the biosolid meets the numerical requirements for Table 1 Ceiling Concentration Limits with respect to metals listed in Appendix 12-3 - the biosolid meets one of the following requirements: <ul style="list-style-type: none"> - meet the criteria for Class A with respect to pathogen destruction listed in Appendix 12-4 and meet one of the vector attraction reduction criteria listed in Appendix 12-5 when the biosolids are applied to a public contact site - meet the criteria for Class B with respect to pathogen destruction listed

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<p>WA.105.7.CO. Biosolids applicators must meet specific requirements (5 CCR 1002-64, Section 64.15(C) through (F)) [Revised May 1998; Revised March 2004; Revised March 2008].</p>	<p>in Appendix 12-4 and meet one of the vector attraction reduction criteria listed in Appendix 12-5 when the biosolids are applied to land for agricultural use or to disturbed land for reclamation site.</p> <p>Verify that biosolids are not applied for any beneficial use if the application is likely to adversely affect a threatened or endangered species or the designated critical habitat of any threatened or endangered species.</p> <p>Verify that biosolids that do not meet the numerical criteria for Table 3 Pollutant Concentration Limits with respect to metals as defined in Appendix 12-3 meet the cumulative pollutant loading limits listed in Appendix 12-7.</p> <p>Verify that cumulative pollutant loading limits are documented.</p> <p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that biosolids applicators do not apply biosolids for beneficial use on land located upgradient, and within 1 linear mile, of a point at which surface waters are diverted for use in a public water system, unless either:</p> <ul style="list-style-type: none"> - runoff from within the application site does not drain into the body of water which is diverted - a site operating plan is prepared, and submitted with the Letter of Intent for the Use and Distribution of Biosolids which describes measures which event runoff during any storm event of greater frequency than the 10-yr, 24-h storm event from the application site into the body of water which is diverted. <p>Verify that biosolids for beneficial uses are not applied on land located in the following areas:</p> <ul style="list-style-type: none"> - upgradient and within 300 ft of a reservoir classified for Class I Recreational Use by the Water Quality Control Commission - within 200 ft of any body of surface water, including intermittent streambeds when standing or running water is present in the streambed, unless application is made by either subsurface injection, or by surface application which is followed by immediate incorporation, or a site management plan is prepared, and submitted with the Letter of Intent to Use or Distribute Biosolids which describes measures which prevent runoff from the application site into the body of water - within 50 ft of any water body or perennial streambed, or any intermittent streambed when standing or running water is present in the streambed - within 33 ft of any dry streambed. <p>(NOTE: For purposes of this section, land which, as the result of typical agricultural practice, is under cultivation is not considered to be a dry streambed regardless of whether it serves as a water course during significant precipitation</p>

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<p>WA.105.8.CO. Biosolid applicators must meet specific requirements for the beneficial use of biosolids (5 CCR 1002-64, Section 64.15(G) through (J))</p>	<p>events.)</p> <p>Verify that biosolids applicators do not apply biosolids for beneficial use on land that is saturated, or on land where ponding is occurring.</p> <p>Verify the biosolids applicators do not apply biosolids for beneficial use on land that is either:</p> <ul style="list-style-type: none"> - within 100 ft of a private domestic water supply well or within 300 ft of a community supply well when use is made to agricultural land - within 300 ft of a private domestic water supply well or within 1500 ft upgradient of a community supply well when use is made for reclamation of disturbed land. <p>Verify that biosolids applicators do not apply biosolids for beneficial use on land that is underlain by groundwater where the annual high groundwater table is within 5 ft of the surface.</p> <p>Verify that biosolids applicators do not apply biosolids to agricultural land on slopes in excess of 15 percent.</p> <p>Verify that biosolids applicators conform to Department standards when applying biosolids to agricultural land with slopes less than 15 percent properly.</p> <p>Verify that biosolids applicators do not apply biosolids for reclamation on disturbed land with slopes in excess of 30 percent.</p> <p>Verify that biosolids applicators conform to Department standards when applying biosolids for reclamation with slopes less than 30 percent properly.</p> <p>Verify that biosolids applicators do not apply biosolids for beneficial use on land that is frozen, ice- or snow-covered where the slope of the site exceeds 6 percent.</p> <p>Verify that biosolids applicators do not apply biosolids for beneficial use on land which is frozen, ice- or snow-covered where the slope of the land is greater than 3 percent and is less than or equal to 6 percent unless one of the following requirements is met:</p> <ul style="list-style-type: none"> - there is 80 percent vegetative ground cover - approval has been obtained based upon a plan demonstrating adequate runoff containment measures. <p>(NOTE: See WA.105.1.CO. for applicability.)</p> <p>Verify that biosolid applicators do not apply biosolids for beneficial use on land cultivated in food crops where the soil exhibits a pH of less than 6.0.</p>

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<p>[Citation Revised May 1998; Revised March 2008].</p>	<p>Verify that applicators do not apply biosolids for beneficial use on land unless:</p> <ul style="list-style-type: none"> - for irrigated agricultural land, the depth of suitable soil is a minimum of 3 ft - for agricultural land cultivated in dryland crops, or for rangeland, the depth of suitable soil is a minimum of 18 in. - for reclamation of disturbed land the depth of suitable soil is a minimum of 12 in. <p>Verify that biosolid applicators do not apply biosolids for beneficial use to land where the available phosphorus content of the soil exceeds the following:</p> <ul style="list-style-type: none"> - for sodium bicarbonate extraction, 100 ppm - for AB-DPTA extraction, 50 ppm - for bray P1 extraction, 170 ppm (determined when soil pH is 6.5 or less). <p>Verify that applicators do not apply biosolids for beneficial use to agricultural land such that nitrogen application exceeds the agronomic rate for the crop or vegetation cultivated.</p> <p>Verify that applicators do not apply biosolids for reclamation of disturbed land such that nitrogen application exceeds the agronomic rate for vegetation that is to be established, except that such application rate may be based upon an aggregate agronomic need representing the initial 5 yr after application occurs.</p> <p>Verify that no person applies biosolids for beneficial use to land where the available phosphorus content of the soil exceeds the following:</p> <ul style="list-style-type: none"> - 100 ppm, using sodium bicarbonate extraction - 50 ppm, using AB-DTPA extraction - 170 ppm, using Bray P1 extraction. <p>(NOTE: Available phosphorus levels will be determined based upon the Bray P1 extraction when soil pH is 6.5 or less.)</p> <p>Verify that applicators do not apply biosolids which are considered to be Class B with respect to pathogen destruction listed in Appendix 12-4, unless the following requirements are met:</p> <ul style="list-style-type: none"> - food crops with harvested parts that may touch the biosolids/soil mixture and which grow above the soil surface are not harvested for 14 mo after application of biosolids - food crops with harvested parts which grow below the soil surface are not harvested for 20 mo after application of biosolids when the biosolids remain on the soil surface for 4 mo or longer prior to incorporation in the soil - food crops with harvested parts which grow below the soil surface are not harvested for 38 mo after application of biosolids when the biosolids remain on the soil surface for less than 4 mo prior to incorporation into the soil - food crops and nonfood crops are not be harvested for 30 days after application of biosolids.

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	<p>Verify that applicators do not apply biosolids which are considered to be Class B with respect to pathogen destruction listed in Appendix 12-4, unless the following requirements are met:</p> <ul style="list-style-type: none"> - domesticated livestock are not allowed to graze on the land for 30 days after application of biosolids - turf grown on land where biosolids are applied is not harvested for 1 yr after application of biosolids - public access to land with a high potential for public exposure is restricted for 1 yr after application of biosolids - public access to land with a low potential for public exposure is restricted for 30 days after application of biosolids.

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<p>LAND APPLICATION OF SLUDGE</p> <p>Notifications WA.115.</p> <p>WA.115.1.CO. Biosolids preparers must meet notification requirements (5 CCR 1002-64, Section 64.15(B) [Added May 1998; Revised March 2007; Revised March 2008].</p>	<p>Verify that any person who prepares biosolids that will be applied by another to agricultural land or used by another for reclamation of disturbed land provides the following to the biosolids applier:</p> <ul style="list-style-type: none"> - written notification of the total nitrogen concentration, on a dry weight basis, of the biosolids - notice of and necessary information to comply with the applicable requirements of these regulations. <p>Verify that:</p> <ul style="list-style-type: none"> - the biosolids applier provides written notice to the Division and the local health authority when biosolids are applied to agricultural land or used for reclamation of disturbed land - that such notice is provided prior to land application of biosolids by the preparer or the applier - that such notice occurs at a minimum of one time per year. <p>Verify that notice includes the following:</p> <ul style="list-style-type: none"> - the location, by either street address or latitude and longitude, of each land application or reclamation use site - the approximate time period the biosolids will be applied to the site - the name, address, telephone number, and permit number (if appropriate) for the biosolids preparer - the name, address, telephone number, and permit number (if appropriate) for the person who will land apply or use the biosolids for reclamation. <p>Verify that the biosolids preparer ensures that the applicable requirements of these regulations are met when the biosolids are applied to agricultural land for reclamation of disturbed land.</p> <p>Verify that any person who produces biosolids in Colorado, which biosolids are land applied to agricultural land or used for reclamation of disturbed land in another State, provides written notice to the permitting authority for the State in which the biosolids are proposed to be so used or land applied prior to commencement of such activities.</p>

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LAND APPLICATION OF SLUDGE WA.120. Monitoring WA.120.1.CO. Biosolids applicators and distributors must monitor biosolids (5 CCR 1002-64, Section 64.16(A)) [Citation Revised May 1998]. WA.120.2.CO. Biosolids applicators must meet monitoring standards (5 CCR 1002-64, Section 64.16(B)) [Citation Revised May 1998; Revised March 2008].	<p>Verify that biosolids applicators and distributors monitor the biosolids according to the schedule in Appendix 12-8.</p> <p>(NOTE: If samples are required once per yr, they must be collected and sampled during the fourth quarter (1 October through 31 December) unless the Division specifies otherwise.)</p> <p>(NOTE: Collection and analysis of biosolids samples from wastewater treatment lagoons are required prior to removal and use or distribution of the biosolids.)</p> <p>Verify that biosolids samples include the parameters listed in Appendix 12-9.</p> <p>Verify that samples are composite samples and individual samples for compositing are collected either:</p> <ul style="list-style-type: none"> - in a storage area - at the outlet of a biosolids application device immediately prior to application. <p>(NOTE: Composite samples of liquid biosolids must consist of a minimum of three grab samples of no less than 500 mL taken at equal intervals to represent the entire pumping cycle and composite samples of dewatered biosolids must consist of a minimum of three grab samples of no less than 0.5 lb collected as to be representative of the volume of biosolids applied within a 24-h period.)</p> <p>Verify that the biosolids are analyzed to demonstrate compliance with the pathogen destruction and vector attraction reduction requirements.</p> <p>(NOTE: Compliance with class A pathogen requirements must be demonstrated using multiple tube assays. Compliance with class B pathogen requirements may use either multiple tub or membrane filter methods.)</p> <p>Verify that biosolids applicators collect and analysis soil for the parameters listed in Appendix 12-10 prior to the initial biosolids application and once per application thereafter.</p> <p>Verify that applicators collect and analysis soil for the parameters listed in Appendix 12-11 prior to the initial biosolids application and once every 10 yr</p>

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	thereafter. (NOTE: These samples must be composite samples with one sample per 320 acres and consist of soil taken from no fewer than five core holes and completely mixed to form a minimum 1-lb sample.)

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<p>LAND APPLICATION OF SLUDGE</p> <p>WA.125. Recordkeeping and Reporting</p> <p>WA.125.1.CO. Facilities that prepare biosolids must meet recordkeeping and reporting standards (5 CCR 1002-64, Section 64.17(A) and (B)(1)) [Revised May 1998; Revised March 2008].</p> <p>WA.125.2.CO. Biosolids applicators must meet recordkeeping and reporting requirements (5 CCR 1002-64, Section 64.17(A) and (D)) [Added May 1998; Revised March 2004].</p>	<p>Verify that biosolids preparers develop and keep for 5 yr the following information:</p> <ul style="list-style-type: none"> - documentation demonstrating compliance with the appropriate pathogen destruction criteria - documentation demonstrating compliance with the appropriate vector attraction reduction criteria or a certification from the person applying the biosolid - the results of any biosolids analyses - the results of any soil analyses - the results of any addition monitoring performed as specified in the Notice of Authorization of the Use and Distribution of Biosolids. <p>Verify that the biosolids preparer submits an annual self-monitoring report to the Division with proper documentation and certifications by 19 February for the previous yr.</p> <p>Verify that biosolids appliers develop and keep for 5 yr the following information:</p> <ul style="list-style-type: none"> - documentation demonstrating compliance with the appropriate pathogen destruction criteria or a certification from the person who prepares the biosolid - the results of any biosolids analyses performed and the analytical procedures utilized - the results of any soils analyses performed and the analytical procedures utilized - the results of any addition monitoring performed as specified in the Notice of Authorization of the Use and Distribution of Biosolids. <p>Verify that the biosolids applier submits an annual self-monitoring report to the Division with proper documentation and certifications by 19 February for the previous yr.</p>

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WA.135. SURFACE DISPOSAL OF SLUDGE WA.135.1.CO. Producers of water treatment plant sludge must comply with specific standards (5 CCR 1003-7, Section 2) [Revised May 1998]. WA.135.2.CO. [Moved May 1998]. WA.135.3.CO. [Moved May 1998]. WA.135.4.CO. Applicators of water treatment plant sludge must meet application requirements (5 CCR 1003-7, Section 4). WA.135.5.CO. Water treatment sludge storers must comply with specific standards (5 CCR 1003-7, Section 4) [Citation Revised	Verify that water treatment sludge producers do not sell, distribute, or supply water treatment sludge to any other person for the use at an application site unless: <ul style="list-style-type: none"> - the producer has submitted a complete Beneficial Use Plan by certified mail or by personal service to the Department, and a copy of the letter to the local health Department authority, regarding that application - the producer has obtained permission from the user to enter on the site to perform any monitoring and analysis identified in the Beneficial Use Plan - the producer has made available a copy to all regulations concerning beneficial use of water treatment sludge - the Department has issued a Beneficial Use Certification. (NOTE: Moved to WA.135.5.CO. May 1998.) (NOTE: Moved to WA.135.6.CO. May 1998.) Verify that co-applied domestic sewage sludge and water treatment plant sludge is mixed prior to application or is incorporated following application. Verify that sludge applicators do not apply water treatment plant sludge to land used to grow root crops and low growing fruits and vegetables if such crops are intended for direct human consumption. Verify that sludge applicators do not apply water treatment plant sludge that exceeds total alpha activity of 40 pCi/g of dry sludge. Verify that facilities do not store water treatment sludge at an application site unless a beneficial use certification has been issued by the Department. Verify that the storage area is bermed or otherwise protected to prevent movement of spillage or runoff from the storage facility off of the permitted site.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010												
<p>WA.155.</p> <p>WASTEWATER REUSE</p> <p>WA.155.1.CO. Treaters and users of reclaimed domestic wastewater must be authorized (5 CCR 1002-84 Sections 84.4 and 84.6) [Added March 2005; Revised March 2007; Revised March 2010].</p> <p>WA.155.2.CO. Reclaimed domestic wastewater must meet Category 1 or Category 2 treatment standards (5 CCR 1002-84 Section 84.7) [Added March 2005; Revised March 2007; Citation Revised March 2010].</p>	<p>(NOTE: This regulation applies to the use of reclaimed water for landscape irrigation, fire protection, industrial, and commercial uses identified in section 84.8 of this regulation. This regulation does not apply to wastewater that has been treated and released to state waters prior to subsequent use.)</p> <p>Verify that reuse of reclaimed domestic wastewater for the uses identified in Appendix 12-13 is prohibited except where authorized by a Notice of Authorization.</p> <p>Verify that the additional conditions listed in Appendix 12-13 are met for uses of reclaimed domestic wastewater when they are included in the Notices of Authorization.</p> <p>Verify that Category 1 reclaimed domestic wastewater meets the following standards at the point of compliance:</p> <table> <tr> <th><u>Parameter</u></th><th><u>Limit</u></th></tr> <tr> <td>E. coli/100 ml</td><td>126/100 ml monthly geometric mean and 235/100 ml single sample maximum in any calendar month</td></tr> <tr> <td>Total Suspended Solids</td><td>30 mg/L as a daily maximum.</td></tr> </table> <p>Verify that Category 2 reclaimed domestic wastewater meets the following standards at the point of compliance:</p> <table> <tr> <th><u>Parameter</u></th><th><u>Limit</u></th></tr> <tr> <td>E. coli/100 ml</td><td>126/100 ml monthly geometric mean and 235/100 ml single sample maximum in any calendar month.</td></tr> <tr> <td>Turbidity, NTU</td><td>Not to exceed 3 NTU as a monthly average and not to exceed 5 NTU in more 5 percent of the individual analytical results during any calendar month.</td></tr> </table> <p>Verify that Category 3 reclaimed domestic wastewater meets the following</p>	<u>Parameter</u>	<u>Limit</u>	E. coli/100 ml	126/100 ml monthly geometric mean and 235/100 ml single sample maximum in any calendar month	Total Suspended Solids	30 mg/L as a daily maximum.	<u>Parameter</u>	<u>Limit</u>	E. coli/100 ml	126/100 ml monthly geometric mean and 235/100 ml single sample maximum in any calendar month.	Turbidity, NTU	Not to exceed 3 NTU as a monthly average and not to exceed 5 NTU in more 5 percent of the individual analytical results during any calendar month.
<u>Parameter</u>	<u>Limit</u>												
E. coli/100 ml	126/100 ml monthly geometric mean and 235/100 ml single sample maximum in any calendar month												
Total Suspended Solids	30 mg/L as a daily maximum.												
<u>Parameter</u>	<u>Limit</u>												
E. coli/100 ml	126/100 ml monthly geometric mean and 235/100 ml single sample maximum in any calendar month.												
Turbidity, NTU	Not to exceed 3 NTU as a monthly average and not to exceed 5 NTU in more 5 percent of the individual analytical results during any calendar month.												

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010					
<p>WA.155.3.CO. All reclaimed domestic wastewater users must meet the requirements of their Plan to Comply (5 CCR 1002-84, Section 84.9 (C) and (D)) [Added March 2005; Revised March 2010].</p>	standards at the point of compliance:					
	<table> <tr> <th><u>Parameter</u></th><th><u>Limit</u></th></tr> <tr> <td>E. coli/100 ml</td><td>None detected in at least 75 percent of samples in a calendar month and 126/100 ml single sample maximum</td></tr> <tr> <td>Turbidity, NTU</td><td>Not to exceed 3 NTU as a monthly average and not to exceed 5 NTU in more 5 percent of the individual analytical results during any calendar month.</td></tr> </table> <p>Verify that all users include information in their User Plan to Comply that demonstrates compliance with the following requirements.</p> <p>Verify that use of reclaimed domestic wastewater is confined to the authorized use area, operation, or process.</p> <p>Verify that precautions are taken to ensure that reclaimed domestic wastewater will not be sprayed on any facility or area not designated for application such as occupied buildings, domestic drinking water facilities, or facilities where food is being prepared for human consumption.</p> <p>Verify that notification is provided to inform the public that reclaimed domestic wastewater is being used and is not safe for drinking.</p> <p>Verify that notification includes posting of signs of sufficient size to be clearly read in all use areas, around impoundments, and on tanks, tank trucks and other equipment used for storage or distribution of reclaimed domestic wastewater, with appropriate wording in the dominant language(s) expected to be spoken at the site.</p> <p>Verify that all new, modified, or replaced piping, valves, controllers, outlets, and other appurtenances, including irrigation systems and any equipment used in a commercial or industrial operation or process, are marked to differentiate reclaimed domestic wastewater from domestic water or other piping systems.</p> <p>Verify that an approved backflow prevention device or cross connection control method is provided at all potable water service connections to reclaimed domestic wastewater use areas.</p> <p>Verify that operation of the irrigation system, including valves, outlets, couplers, and sprinkler heads, and commercial or industrial facilities and equipment utilizing reclaimed domestic wastewater, is performed only by trained personnel authorized by the user.</p> <p>Verify that supplementing reclaimed domestic wastewater with potable water by a user is allowed except through an approved reduced pressure principle backflow</p>	<u>Parameter</u>	<u>Limit</u>	E. coli/100 ml	None detected in at least 75 percent of samples in a calendar month and 126/100 ml single sample maximum	Turbidity, NTU
<u>Parameter</u>	<u>Limit</u>					
E. coli/100 ml	None detected in at least 75 percent of samples in a calendar month and 126/100 ml single sample maximum					
Turbidity, NTU	Not to exceed 3 NTU as a monthly average and not to exceed 5 NTU in more 5 percent of the individual analytical results during any calendar month.					

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<p>WA.155.4.CO. Landscape irrigation users of reclaimed domestic wastewater users must meet additional requirements in their Plan to Comply (5 CCR 1002-84 Section 84.9 (A)) [Added March 2005; Citation Revised March 2010].</p>	<p>prevention device or an air gap.</p> <p>Verify that, where a backflow prevention device is used, it is tested on an annual basis by a Certified Cross Connection Control Technician, unless there is a physical separation (e.g., removal of the connecting pipe, etc.) between the potable and reuse distribution systems.</p> <p>Verify that supplementing reclaimed domestic wastewater with water from irrigation wells or industrial wells is not allowed except through an approved reduced pressure principle backflow prevention device or an air gap.</p> <p>Verify that there is no impoundment or irrigation of reclaimed domestic wastewater within 100 feet of any well used for domestic supply unless:</p> <ul style="list-style-type: none"> - in the case of an impoundment, the impoundment is lined with a synthetic material with a permeability of 10-6 cm/sec or less - in the case of irrigation, other precautions are implemented and included as a condition of the Notice of Authorization, to prevent contamination of the well. <p>Verify that workers are informed of the potential health hazards involved with contact or ingestion of reclaimed domestic wastewater and are educated regarding proper hygienic procedures to protect themselves.</p> <p>Verify that each User Plan to Comply includes a statement signed by the user, or a legal representative of the user, that certifies:</p> <ul style="list-style-type: none"> - the user has been provided a copy of these regulations and has agreed to comply with the applicable requirements of these regulations, in particular the Conditions for Use of Reclaimed Wastewater described in sections 84.8 and 84.9, and, if applicable, the Additional Conditions for Use of Reclaimed Domestic Wastewater Meeting Category 1 Restricted Access Standards (section 84.10). - the user agrees to allow the treater or the Division access to the site to determine whether the user is in compliance with these regulations, and/or to perform monitoring and analysis as may be required in section 84.11. <p>Verify that landscape irrigation users include the following in their User Plan to Comply:</p> <ul style="list-style-type: none"> - information including name of entity; legally responsible person's name; address; telephone number; email address; and site address where reuse water will be used - an 8.5" x 11" or an 11" x 17" map or schematic drawing indicating the specific area(s) where irrigation with reclaimed domestic wastewater will take place - description of the best management practices the user intends to implement to ensure that direct and windblown spray and other means of human

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<p>WA.155.5.CO. Commercial, industrial, and fire protection users of reclaimed domestic wastewater users must meet additional requirements in their Plan to Comply (5 CCR 1002-84 Section 84.9 (B)) [Added March 2005; Revised March 2007; Citation Revised March 2010].</p>	<p>exposure from irrigation systems will be confined to the areas designated and approved in the Notice of Authorization</p> <ul style="list-style-type: none"> - best management practices the user intends to employ to ensure that application rates are controlled to strictly minimize ponding and runoff, (e.g., rain shutoff devices, application at evapotranspiration rates, daily inspections, or other means) - if applicable, information demonstrating how the user will meet the additional requirements for restricted access to landscaped areas where Category 1 reclaimed domestic wastewater is to be applied. <p>Verify that commercial, industrial, and fire protection users include the following in their User Plan to Comply:</p> <ul style="list-style-type: none"> - user information including name of entity; legally responsible person's name; address; telephone number; email address; and site address where reuse water will be used - description of how reclaimed domestic wastewater is to be used in the commercial or industrial operation(s) or process(es) - an 8.5" x 11" or 11" x 17' map or schematic showing where such use will occur - the potential for public contact with reclaimed domestic wastewater used in the commercial or industrial operation(s) or process(es) - the fate of wastewater from the commercial or industrial operation or process after use, (e.g., discharge to sanitary sewer, lined evaporation/recovery pond, or other location) - best management practices the user intends to implement to prevent or minimize direct and windblown spray and other pathways of human exposure to reclaimed domestic wastewater - if applicable, information demonstrating how the user will meet the additional requirements for restricted access to commercial or industrial areas, operations or processes where Category 1 restricted access reclaimed domestic wastewater is to be used - where, reclaimed domestic wastewater is used to supply a fire sprinkler or standpipe system, information describing the user's cross connection control, prevention and identification program that the user will implement to prevent any cross connection between the reclaimed domestic wastewater and potable water systems.
<p>WA.155.6.CO. Landscape irrigation users must meet additional conditions for use of reclaimed domestic wastewater meeting Category 1 restricted access standards (5 CCR 1002-84 Section 84.9 (A)(5)) [Added March 2005;</p>	<p>Verify that irrigation occurs only during periods approved in the Notice of Authorization so as to strictly minimize public contact with reclaimed domestic wastewater.</p> <p>Verify that, where the user has installed barriers, as approved in the Notice of Authorization, to prevent public access to a site, use may occur at any time that the barriers are fully secured, except that use ceases one hour prior to the barriers</p>

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<p>Citation Revised March 2007; Revised March 2010].</p> <p>WA.155.7.CO. Reclaimed domestic wastewater treaters operating under a Notice of Authorization must meet monitoring, recording, and reporting requirements (5 CCR 1002-84 Section 84.10 (A)(1), and (B)) [Added March 2005; Citation Revised March 2007; Citation Revised March 2010].</p> <p>WA.155.8.CO. Reclaimed domestic wastewater users must meet monitoring, recording, and reporting requirements (5 CCR 1002-84 Section 84.10 (A)(2) and (3)) [Added March 2005; Citation Revised March 2007; Revised March 2010].</p> <p>WA.155.9.CO. Reclaimed domestic wastewater treaters and users must report violations (5 CCR 1002-84 Section 84.10 (C)(1) and (2)) [Added March 2005; Citation Revised March 2007; Citation</p>	<p>being totally or partially removed.</p> <p>Verify that any monitoring, reporting, or recording requirements included in the Notice of Authorization are met.</p> <p>Verify that the quality of reclaimed domestic wastewater produced and delivered at the point(s) of compliance, inspections of a representative number and type of user sites to determine user compliance, and self-certifications submitted to the treater by users are recorded.</p> <p>Verify that treaters provide an annual report to the Division for the previous year, by January 31st, that includes the following:</p> <ul style="list-style-type: none"> - information demonstrating the treater's compliance with the reclaimed domestic wastewater standards, including secondary treatment standards - information supplied by the user to the treater demonstrating the user's compliance with the conditions of land application included in the Notice of Authorization - confirmation that inspections of a representative number and type of user sites were conducted to determine user compliance - a certification statement. <p>Verify that any monitoring, reporting, or recording requirements included in the Notice of Authorization are met.</p> <p>Verify that each user records the total volume of reclaimed domestic wastewater used per year.</p> <p>Verify that Landscape Irrigation Users record each location with the associated acreage where reclaimed domestic wastewater was applied.</p> <p>Verify that, for restricted access sites using Category 1 reclaimed domestic wastewater, confirmation is submitted that reclaimed domestic wastewater was used only during authorized use times (if applicable).</p> <p>Verify that treaters and users report in writing to the Division, within 30 days of becoming aware of violation of regulations and/or Notices of Authorization at their respective facilities.</p> <p>(NOTE: Where the treater finds violations by a user, the 30 day period for reporting is waived for a period of up to 30 additional days, if the treater is working with the user to resolve the violation. If the violation is resolved, no notice to the Division is required and the violation is to be reported in the treater's</p>

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Revised March 2010].	<p>annual report.)</p> <p>Verify that, if the violation is continuing after a total of 60 days from the time the treater became aware of the violation, the treater reports the violation to the Division within five working days. Nothing in this section precludes a user from reporting violations by a treater to the Division.</p> <p>Verify that, for more serious violations (including non-permitted discharges to surface waters, cross connections without a backflow prevention device, exceedences of the reclaimed domestic wastewater standards for E. coli, or other violations posing an immediate threat to public health or the environment), the treater or user reports orally to the Division within 24 hours of becoming aware of the violation, followed up by a written report within 5 working days.</p> <p>Verify that the written report contains a description of the noncompliance, including exact dates and times; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.</p>

Appendix 12-1

Limitations for the Discharge of Wastes

(5 CCR 1002-62, Section 62.5(1) and (4)) [Revised March 2010]

Parameters	Parameter Limitations		
	7-Day Average ¹	30-Day Average ²	Instantaneous Maximum ³
BOD ₅	45 mg/L	30 mg/L	N/A
TSS	45 mg/L	30 mg/L	N/A
CBOD ₅	40 mg/L	25 mg/L	N/A
Residual Chlorine			0.5 mg/L ^{3,6}
pH			6.0-9.0 ^{3,4}
Oil and Grease			10mg/L ^{3,5}

¹ 7-Day Average: The arithmetic mean of all samples taken in a 7-day period.

² 30-Day Average: The arithmetic mean of all samples taken in a 30-day period.

³ As determined by the results of any single grab sample.

⁴ The pH will remain at or between these values.

⁵ A numeric effluent limit will be assigned in permits for discharges to surface water, however, monitoring for a visual sheen will generally be required. Where a visual sheen is detected, the discharger will be required to collect a grab sample and have it analyzed for oil and grease. Monitoring for oil and grease may be required where there is a reasonable potential that oil and grease will be present in the effluent at concentrations at or above 10 mg/L.

⁶ This limitation shall not apply to discharges to irrigation ditches.

These numeric limits and sampling requirements have been set with the inherent variability of the analytical procedures taken into consideration.

The numeric limits for pH for domestic wastewater treatment facilities may be adjusted to values outside of the limits in section 62.5(1)(e), above, subject to limitations necessary to protect applicable water quality standards, where inorganic chemicals are not added to the waste stream as part of the treatment process and where industrial contributions do not cause the pH to be less than 6.0 s.u. or greater than 9.0 s.u.

Appendix 12-2

Adjusted TSS Limitations for the Discharge of Wastes (CCR 1002-62, Section 62.5(3)) [Citation Revised March 2010]

Treatment Type	Parameter Limitations	
	7-Day Average ¹	30-Day Average ²
Nonaerated Waste Stabilization Ponds	160 mg/L	105 mg/L
Aerated Waste Stabilization Ponds	110 mg/L	75 mg/L

(NOTE: Where adjusted total suspended solids limitations are given, the 85 percent removal requirement for TSS is waived.)

¹ 7-Day Average: The arithmetic mean of all samples taken in a 7-day period.

² 30-Day Average: The arithmetic mean of all samples taken in a 30-day period.

Appendix 12-3

Criteria for Determining the Biosolid Classification

(5 CCR 1002-64, Section 64.12(A)) [Citation Revised April 2000; Revised March 2004]

Criteria for metals based classification of biosolids shall be as defined in Table 1 and Table 3. Determination of compliance with Table 1 or Table 3 criteria shall be demonstrated by analysis of the final product material for all of the parameters identified in Table 1 and Table 3.

Table 1 - Ceiling Concentration Limits, mg/kg, dry weight

Pollutant	mg/kg
Arsenic	75
Cadmium	85
Copper	4300
Lead	840
Mercury	57
Molybdenum	75
Nickel	420
Selenium	100{1}
Zinc	7500

{1} As a result of a ruling by the United States Court of Appeals for the District of Columbia Circuit on March 3, 1998, the selenium limit set forth in Table 1 is stayed with respect to the City of Pueblo's land application of biosolids at public contact sites with low potential for child occupancy.

Table 3 - Pollutant Concentration Limits, mg/kg, dry weight basis

Pollutant	mg/kg
Arsenic	41
Cadmium	39
Copper	1500
Lead	300
Mercury	17
Molybdenum	
Nickel	420
Selenium	100
Zinc	2800

Compliance with the numeric criteria contained in Table 1 or Table 3 shall be determined as follows:

- the arithmetic average of all samples collected within a given calendar mo and analyzed for a given parameter shall not exceed the numeric limit for Table 3 biosolids for any parameter if the biosolids are to be considered to be within Table 3 Pollutant Concentration Limits (PC)
- the concentration for any given parameter for which criteria are identified shall not exceed the numeric limit for Table 1 biosolids in any sample if the biosolids are to be considered below Table 1 Ceiling Concentration Limits
- the initial determination of biosolids grade shall be as demonstrated by the arithmetic average of no less than three composite biosolid samples
- for reclassification of Table 1 quality as Table 3 quality biosolids compliance with the Table 3 criteria shall be demonstrated by the arithmetic average of no less than seven daily composite biosolids samples
- for reclassification of biosolids which had previously exceeded the Table 1 numeric criteria, compliance with the Table 1 criteria shall be demonstrated by the arithmetic average of no less than seven daily composite biosolids samples
- all sampling of biosolids for the purpose of demonstrating compliance with the criteria contained in Table 1 or Table 3 shall be performed properly

- if at any time the arithmetic average of all samples collected within a given calendar mo and analyzed for a given parameter exceeds the Table 3 Pollutant Concentration Limits, , the biosolids shall no longer be considered within Table 3 Limits and all applicable requirements for Table 1 biosolids shall apply. Reclassification of such biosolids shall be in accordance with the above requirements
- if at any time the concentration for any given parameter for which numeric criteria are identified exceeds the limit for Table 1 Ceiling Concentration Limits, the biosolids shall no longer be considered Table I limits and the biosolid shall not be applied to land for beneficial use except as may be allowed pursuant to the Colorado Solid Waste Disposal Sites and Facilities Regulations. Reclassification of such biosolids shall be in accordance with the above requirements.

Appendix 12-4

Pathogen Destruction Criteria Requirements for Biosolids (5 CCR 1002-64, Section 64.12(B)) [Citation Revised April 2000]

For a biosolid to be classified as Grade I, it must meet the following pathogen destruction criteria requirements:

- Class A--Alternative 1.
 - Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis) or the density of *Salmonella* sp. bacteria in the biosolids shall be less than three Most Probable Number per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed; or at the time the final product material derived from biosolids is prepared, and
 - The temperature of the biosolids that is used or distributed shall be maintained at a specific value for a period of time as determined using the following procedures:
 - When the percent solids of the biosolids is 7 percent or higher, the temperature of the biosolids shall be 50 deg C or higher; the time period shall be 20 min or longer; and the temperature and time period shall be determined using the following equation, except when small particles of biosolids are heated by either warmed gases or an immiscible liquid.
$$D = 131,700,000/10^{0.1400t}$$
Where D = time in days and t = temperature in deg C.
 - When the percent solids of the biosolids is 7 percent or higher and small particles of biosolids are heated by either warmed gases or an immiscible liquid, the temperature of the biosolids shall be 50 deg C or higher; the time period shall be 15 sec or longer; and the temperature and time period shall be determined using the equation above
 - When the percent solids of the biosolids is less than 7 percent and the time period is at least 15 sec, but less than 30 min, the temperature and time period shall be determined using the equation above.
 - When the percent solids of the biosolids is less than 7 percent; the temperature of the biosolids is 50 deg C or higher; and the time period is 30 min or longer, the temperature and time period shall be determined using the following equation:
$$D = 50,070,000/10^{0.1400t}$$
Where D = time in days and t = temperature in deg C.
- Class A--Alternative 2.
 - Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of *Salmonella* sp
 - bacteria in the biosolids shall be less than three Most Probable Number per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed, and
 - at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations:
 - the pH of the biosolids that is used or distributed shall be raised to above 12 s.u. and shall remain above 12 s.u. for 72 h, and
 - the temperature of the biosolids shall be above 52 deg C for 12 h or longer during the period that the pH of the biosolids is above 12 s.u., and
 - at the end of the 72 h period during which the pH of the biosolids is above 12 s.u., the biosolids shall be air dried to achieve a percent solids in the biosolids of greater than 50 percent.
- Class A--Alternative 3.
 - Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of *Salmonella* sp. bacteria in biosolids shall be less than three Most Probable Number per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed; or at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations, and
 - The biosolids shall be analyzed prior to pathogen treatment to determine whether the biosolids contains enteric viruses.

- When the density of enteric viruses in the biosolids prior to pathogen treatment is less than one Plaque-forming Unit per 4 g of total solids (dry weight basis), the biosolids is considered Class A with respect to enteric viruses until the next monitoring episode for the biosolids.
- When the density of enteric viruses in the biosolids prior to pathogen treatment is equal to or greater than one Plaque-forming Unit per 4 g of total solids (dry weight basis), the biosolids is considered Class A with respect to enteric viruses when the density of enteric viruses in the biosolids after pathogen treatment is less than one Plaque-forming Unit per 4 g of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolids that meets the enteric virus density requirement are documented.
- After the enteric virus reduction in the paragraph above is demonstrated for the pathogen treatment process, the biosolids continues to be considered Class A with respect to enteric viruses when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented in the paragraph above.
- The biosolids shall be analyzed prior to pathogen treatment to determine whether the sewage sludge contains viable helminth ova.
 - When the density of viable helminth ova in the biosolids prior to pathogen treatment is less than one per 4 g of total solids (dry weight basis), the biosolids is considered Class A with respect to viable helminth ova until the next monitoring episode for the biosolids.
 - When the density of viable helminth ova in the biosolids prior to pathogen treatment is equal to or greater than one per 4 g of total solids (dry weight basis), the biosolids is considered Class A with respect to viable helminth ova when the density of viable helminth ova in the biosolids after pathogen treatment is less than one per 4 g of total solids (dry weight basis) and when the values or ranges of values for the operating parameters for the pathogen treatment process that produces the biosolids that meets the viable helminth ova density requirement are documented.
 - After the viable helminth ova reduction in the paragraph above demonstrated for the pathogen treatment process, the biosolids continue to be considered Class A with respect to viable helminth ova when the values for the pathogen treatment process operating parameters are consistent with the values or ranges of values documented the paragraph above.
- Class A--Alternative 4.
 - Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed; or at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations, and
 - The density of enteric viruses in the biosolids shall be less than one Plaque-forming Unit per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed; or at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations, and
 - the density of viable helminth ova in the biosolids shall be less than one per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed; or at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations.
- Class A--Alternative 5.
 - Either the density of fecal coliform in the biosolids shall be less than 1000 Most Probable Number per gram of total solids (dry weight basis), or the density of Salmonella sp. bacteria in the biosolids shall be less than three Most Probable Number per 4 g of total solids (dry weight basis) at the time the biosolids are used or distributed; or at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations, and
 - Biosolids that are used or distributed shall be treated in one of the Processes to Further Reduce Pathogens described as follows:
 - Composting--Using either the within-vessel composting method or the static aerated pile composting method, the temperature of the biosolids compost is maintained at 55 °C or higher for 3 days.

- Using the windrow composting method, the temperature of the biosolids compost is maintained at 55 deg C or higher for 15 days or longer. During the period when the compost is maintained at 55 deg C or higher, there shall be a minimum of five turnings of the windrow.
- Heat drying--Biosolids are dried by direct or indirect contact with hot gases to reduce the moisture content of the biosolids to 10 percent or lower. Either the temperature of the biosolids particles exceeds 80 deg C or the wet bulb temperature of the gas in contact with the biosolids as the biosolids leaves the dryer exceeds 80 deg C.
- Heat treatment--Liquid biosolids are heated to a temperature of 180 deg C or higher for 30 min.
- Thermophilic aerobic digestion--Liquid biosolids are agitated with air or oxygen to maintain aerobic conditions and the mean cell residence time of the biosolids is 10 days at 55 to 60 deg C.
- Beta ray irradiation--Biosolids are irradiated with beta rays from an accelerator at dosages of at least 1.0 megarad at room temperature (ca. 20 deg C).
- Gamma ray irradiation--Biosolids are irradiated with gamma rays from certain isotopes, such as Cobalt 60 and Cesium 137, at room temperature (ca. 20 deg C).
- Pasteurization--The temperature of the biosolids is maintained at 70 deg C or higher for 30 min or longer.
- Any other method of biosolids treatment which is certified as a Process to Further Reduce Pathogens by the USEPA, Region VIII, or, after assumption of delegation by the State, which is certified as such by the Division.

For a biosolid to be classified as Class B, it must meet the following pathogen destruction criteria requirements:

- One of the following shall be met for biosolids to be classified as Class B with respect to pathogens.
 - Seven individual samples of the biosolids shall be collected at the time the biosolids are used or distributed or at the time the final product material derived from biosolids is prepared to meet the requirements in Section 4.9.14 of these regulations. The geometric mean of the density of fecal coliform in the samples collected shall be less than either 2,000,000 Most Probable Number per gram of total solids (dry weight basis) or 2,000,000 Colony Forming Units per gram of total solids (dry weight basis), or
 - Biosolids that are used or distributed shall be treated in one of the Processes to Significantly Reduce Pathogens described as follows:
 - Aerobic digestion--Biosolids are agitated with air or oxygen to maintain aerobic conditions for a mean cell residence time at a temperature or temperatures within a time-temperature function having as end points 40 days at 20 deg C and no less than 60 days at 15 deg C.
 - Air drying--Biosolids are dried on sand beds or on paved or unpaved basins. The biosolids dries for a minimum of 3 mo. During two of the 3 mo, the ambient average daily temperature is above 0 deg C.
 - Anaerobic digestion--Biosolids are treated in the absence of air for a mean cell residence time at a temperature or temperatures within a time-temperature function having as end points 15 days at 35 to 55 deg C and no less than 60 days at 20 deg C.
 - Composting--Using either the within-vessel, static aerated pile, or windrow composting methods, the temperature of the biosolids is raised to 40 deg C or higher and remains at 40 deg C or higher for 5 days. For 4 h during the 5 days, the temperature in the compost pile exceeds 55 deg C.
 - Lime stabilization--Sufficient lime is added to the biosolids to raise the pH of the sewage sludge to 12 after 2 h of contact.
 - Any other method of biosolids treatment which is certified as a Process to Significantly Reduce Pathogens by the USEPA, Region VIII, or, after assumption of delegation by the State, which is certified as such by the Division.

Appendix 12-5

Vector Attraction Reduction (Biosolids Stability) Criteria for Biosolids (5 CCR 1002-64, Section 64.12(C)) [Citation Revised April 2000; Revised March 2004]

One of the following biosolids stability requirements must be met when biosolids are applied to agricultural or disturbed land, or to a public contact site.

1. One of the biosolids stability requirements in paragraphs (3) through (13) shall be met when biosolids are applied to agricultural or disturbed land, or to a public contact site.
2. One of the biosolids stability requirements in paragraphs (3) through (10) shall be met when biosolids are distributed to the public for use.
3. The mass of volatile solids in the biosolids shall be reduced by a minimum of 38 percent
4. When the 38 percent volatile solids reduction requirement in paragraph (3) cannot be met for anaerobically digested biosolids, biosolids stability can be demonstrated by digesting a portion of the previously digested biosolids anaerobically in the laboratory in a bench-scale unit for 40 additional days at a temperature between 30 and 37 deg C. When at the end of the 40 days, the volatile solids in the biosolids at the beginning of that period is reduced by less than 17 percent, biosolids stability is achieved
5. When the 38 percent volatile solids reduction requirement in paragraph (3) cannot be met for aerobically digested biosolids, biosolids stability can be demonstrated by digesting a portion of the previously digested biosolids that has a percent solids of 2 percent or less aerobically in the laboratory in a bench-scale unit for 30 additional days at 20 deg C. When at the end of the 30 days, the volatile solids in the biosolids at the beginning of that period is reduced by less than 15 percent, biosolids stability is achieved
6. The specific oxygen uptake rate (SOUR) for biosolids treated in an aerobic process shall be equal to or less than 1.5 mg of oxygen per h per gram of total solids (dry weight basis) at a temperature of 20 deg C
7. Biosolids shall be treated in an aerobic process for 14 days or longer. During that time, the temperature of the biosolids shall be higher than 40 deg C and the average temperature of the biosolids shall be higher than 45 deg C
8. The pH of biosolids shall be raised to 12 or higher by alkaline addition and, without the addition of more alkaline material, shall remain at 12 or higher for 2 h and then at 11.5 or higher for an additional 22 h
9. The percent solids of biosolids that does not contain unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 75 percent based on the moisture content and total solids prior to mixing with other materials
10. The percent solids of biosolids that contains unstabilized solids generated in a primary wastewater treatment process shall be equal to or greater than 90 percent based on the moisture content and total solids prior to mixing with other materials
11. Biosolids shall be subsurface injected
 - a. no significant amount of the biosolids shall be present on the land surface within 1 h after the biosolids are injected.
 - b. when the biosolids which are subsurface injected are considered to be Class A with respect to pathogens, the biosolids shall be injected within 8 h after being discharged from the pathogen treatment process
12. Biosolids which are surface applied shall be incorporated into the soil within 6 h after application to or placement on the land
13. When biosolids that are incorporated into the soil are considered to be Class A with respect to pathogens, the biosolids shall be applied to or placed on the land within 8 h after being discharged from the pathogen treatment process.

Appendix 12-6

Annual Pollutant Loading Limits

(5 CCR 1002-64, Section 64.14) [Citation Revised April 2000]

	kg/ha	lbs/ac
Arsenic	2.00	1.79
Cadmium	1.9	1.70
Chromium	150.00	133.88
Copper	75.00	66.94
Lead	15.00	13.39
Mercury	0.85	0.76
Nickel	21.00	18.74
Selenium	5.00	4.46
Zinc	140.00	124.96

Appendix 12-7

Annual Pollutant Loading Rate Limits

(5 CCR 1002-64, Section 64.14, Table 4) [Citation Revised April 2000; Revised March 2004]

	kg/ha	lbs/Ac
Arsenic	2.00	1.79
Cadmium	1.09	1.70
Copper	75.00	66.94
Lead	15.00	13.39
Mercury	0.85	0.76
Nickel	21.00	18.74
Selenium	5.00	4.46
Zinc	140	124.96

Appendix 12-8

Frequency of Biosolids Sample Collection and Analysis (5 CCR 1002-64, Section 64.16(A)(1)) [Citation Revised April 2000]

Annual Sludge Production (dry tons/yr)	Frequency
less than 319 319 to less than 1650 1650 to less than 16,500 16,500 and greater	once per yr once per quarter once per 2 mo monthly

Appendix 12-9

Biosolids Analyses and Reporting Units

(5 CCR 1002-64, Section 64.16(A)(3)) [Revised April 2000]

Parameters	Units
total solids	percent
pH	standard units
total phosphorus	percent dry weight
total potassium	percent dry weight
total arsenic	mg/kg dry weight
total cadmium	mg/kg dry weight
total copper	mg/kg dry weight
total lead	mg/kg dry weight
volatile solids	percent of total solids
organic nitrogen as N	percent dry weight
total ammonia as N	percent dry weight
nitrate as N	percent dry weight
total mercury	mg/kg dry weight
total molybdenum	mg/kg dry weight
total nickel	mg/kg dry weight
total selenium	mg/kg dry weight
total zinc	mg/kg dry weight

Appendix 12-10

Soil Fertility Analyses and Reporting Units

(5 CCR 1002-64, Section 64.16(B)(1)) [Citation Revised April 2000]

Parameters	Units
pH	standard units
ammonia as N	mg/kg
nitrate as N	mg/kg
total phosphorus	mg/kg
conductivity	mmhos/cm
organic matter	percent
available phosphorus	ppm extract

Appendix 12 - 11

Soil Metals and Physical Characteristics Reporting Units

(5 CCR 1002-64, Section 64.16(B)(3)) [Revised April 2000; Revised March 2001; Revised March 2004]

Parameters	Units
arsenic	mg/kg soil
cadmium	mg/kg soil
chromium	mg/kg soil
copper	mg/kg soil
lead	mg/kg soil
mercury	mg/kg soil
molybdenum	mg/kg soil
nickel	mg/kg soil
selenium	mg/kg soil
zinc	mg/kg soil

Appendix 12 - 12

Biosolid Analyses and Reporting Units¹ (5 CCR 1003-7, Section 5, Table 1)

Parameters	Units
total solids	percent
pH	standard units
organic-N	percent
total ammonia-N	percent
nitrate-N	percent
total phosphorus	percent
total potassium	percent
total aluminum	mg/kg ²
total arsenic	mg/kg
total cadmium	mg/kg
total chromium	mg/kg
total copper	mg/kg
total iron	mg/kg
total lead	mg/kg
total mercury	mg/kg
total molybdenum	mg/kg
total nickel	mg/kg
total selenium	mg/kg
total zinc	mg/kg
total alpha activity	pCi/g ³

¹ all results expressed in dry weight basis for a composite sample

² milligrams per kilogram

³ picocuries per gram

Appendix 12 - 13

Reclaimed Domestic Wastewater Uses (5 CCR 1002-84.8, Table 1) [Added March 2005; Revised March 2007]

Approved Uses	Category 1 - Restricted Access	Category 2 - Unrestricted Access	Category 3 - Unrestricted Access	Additional Conditions
INDUSTRIAL				
Cooling Tower	Allowed	Allowed	Allowed	1
Concrete Mixing and Washout	Allowed	Allowed	Allowed	2
Dust Control	Allowed	Allowed	Allowed	3
Soil Compaction	Allowed	Allowed	Allowed	4
Closed Loop Cooling System	Allowed	Allowed	Allowed	5
LANDSCAPE IRRIGATION				
Restricted Access	Allowed	Allowed	Allowed	
Unrestricted Access	Not Allowed	Allowed	Allowed	4
Resident-Controlled	Not Allowed	Not-Allowed	Allowed	4,5
COMMERCIAL				
Mechanized Street Cleaning	Allowed	Allowed	Allowed	3
Zoo Operations	Allowed	Allowed	Allowed	
FIRE PROTECTION				
Non-Residential Fire Protection	Not Allowed	Allowed	Allowed	6
Resident Fire Protection	Not Allowed	Not Allowed	Allowed	6

Additional Conditions Required. In addition to the conditions for use of reclaimed water listed in section 84.9, the Division will include the following best management practices in the Notices of Authorization for the associated uses listed in Table A:

(1) If there is a significant likelihood for aerosols to drift to public or worker areas, adequate signage is required. Consider supplemental disinfection and chlorine residual and/or public access restrictions.

(2) Category 1 water is allowed in the mixing process only; washing off trucks and using as truck supply water is prohibited. Category 2 water may be used for mixing, washing and truck supply water as long as the user complies with the requirements set forth in section 84.9 of this regulation. Mixing and washing activities must be contained (e.g., flow to lined pit or approved concrete washout area, or within enclosed equipment), as to prevent any off-site runoff or discharge to ground water. Truck drivers and workers shall be trained on the proper use and washout procedures when using reclaimed water.

(3) Application rates shall minimize ponding on or runoff from the area approved for application or use.

(4) No reclaimed water piping shall be extended to or supported from any residential structure and there shall be no accessible above grade outlets from the reclaimed water system at any residential structure. At least one exterior hose bib, supplied with potable water, shall be provided at each residential structure.

(5) The treater shall develop and implement a public education program to inform residents and plumbing contractors and inspectors who deal with the Resident-Controlled Landscape Irrigation systems about the need to: a) strictly prohibit cross-connections between the reclaimed water and potable water systems; b) clearly and

distinctively identify the potable service lines and plumbing from the reclaimed water service lines and plumbing; and c) avoid contact with and strictly minimize ponding or runoff of the reclaimed water. The treater shall implement a cross-connection inspection program and shall have the authority to discontinue reclaimed water service to any resident who flagrantly or repeatedly misuses reclaimed water in a manner inconsistent with this regulation. The treater shall maintain a map indicating all areas where reclaimed water is provided for Resident-Controlled Landscape Irrigation.

(6) The user shall develop and implement a program, including notices in fire department newsletters and fire department preplans, to educate the public and firefighters that reclaimed water is used for fire protection. The user shall develop a program to educate plumbing and fire protection system contractors and inspectors expected to access the fire protection system about the need to confirm that cross-connections between the reclaimed water and potable water systems do not exist and about the requirement to clearly identify the potable and reclaimed water systems throughout the building. All personnel authorized to use the reclaimed water for fire protection shall be educated to avoid contact with and strictly minimize ponding or runoff of the reclaimed water during non-emergency testing or training. An annual cross-connection inspection shall be made at each structure to which reclaimed water piping is extended for fire protection to ensure that no cross-connection exists. The treater shall maintain a map indicating the location of all fire hydrants, sprinkler systems and standpipe systems provided with reclaimed water.

Appendix 12-14

Facility Management Plans for non-Permitted Large CAFOs

(5 CCR 1002-81, Section 81.6) [Added March 2009]

The operator of a non-permitted Large CAFO shall compile a facility management plan (FMP) that includes, to the extent applicable, the information specified in sections 81.6(1), 81.6(2), and 81.6(3).

(1) Surface water protection elements--Production Area. The operator of a non-permitted Large CAFO must develop and implement the following design, construction, and performance requirements for the production area by no later than May 30, 2011. The operator of such a CAFO that comes into existence after May 30, 2011, shall develop and implement the requirements upon being defined as such a CAFO.

- (a) By the implementation deadline stated in section 81.6(1), as applicable, the operator shall include in the FMP the requirements that have been developed and implemented.
- (b) Control of wastewater shall be accomplished using the following structures, methods, and procedures:
 - (i) An impoundment(s) designed, constructed, and maintained so that it is capable of storing, the volume of all liquid manure and wastewater, including the runoff resulting from a 25-year, 24-hour storm or Chronic Storm, whichever is greater, plus two (2) feet of freeboard.
 - (ii) A conveyance structure(s) designed, constructed, and maintained so that it is capable of carrying the flow expected from a 25-year, 24-hour storm or Chronic Storm, whichever is greater.
 - (iii) For open lot wastewater only, in addition to the conveyance structures as described in section 81.6(1)(b)(ii), one of the following structures or methods: 1) an impoundment(s) designed, constructed, and maintained as described in section 81.6(1)(b)(i); 2) a solid/liquid waste separation facility in conjunction with a wastewater treatment strip designed, constructed, and maintained in accordance with sections 81.6(1)(b)(iii)(A-B), below; or, 3) a method approved by the Division.
 - (A) A solid/liquid waste separation facility in conjunction with a wastewater treatment strip designed, constructed, and maintained so that it is capable of managing the flow expected from a 25-year, 24-hour storm or Chronic Storm, whichever is greater.
 - (B) The system described in subsection (A) above shall also be designed in accordance with United States Department of Agriculture--Natural Resources Conservation Service standards, or other standards approved by the Division.
 - (iv) For process-generated wastewater, the operator may use the wastewater control system described in section 81.6(1)(b)(iii) where the Division approves a plan submitted by the operator demonstrating that the system will be sustainable, including that wastewater released into the treatment strip will be properly assimilated by the vegetation.
- (c) Install a depth marker(s) in all impoundments indicated in the facility design calculations as being necessary to contain a 25-year, 24-hour storm or Chronic Storm, whichever is greater. In addition, depth markers shall be clearly marked, at minimum, in one (1) foot increments and shall clearly indicate the minimum capacity necessary to contain the greater storm event.
 - (i) Perform weekly inspections of depth markers and record the wastewater level in each impoundment containing a depth marker.
- (d) Design, construct, and maintain structures that are sized to divert stormwater from running onto a production area as the result of a 25-year, 24- hour storm or Chronic Storm, whichever is greater.
- (e) Procedures to ensure proper operation and maintenance of the impoundments, including the following:
 - (i) Whenever the storage capacity of impoundments and tanks is less than the volume required to store runoff from the designed storm event, the structures shall be dewatered to a level that restores the required capacity once soils on a land application site has the water holding capacity to receive the wastewater, or in accordance with section 81.6(2)(b)(i)(C).

(2) Surface water protection elements--Land Application Sites. The operator of a non-permitted Large CAFO shall develop and implement the following practices and procedures for land application sites by no later than February 27, 2009. The operator of such a CAFO that comes into existence after February 27, 2009, shall develop and implement the practices and procedures upon being defined as such a CAFO.

(a) By the implementation deadline stated in section 81.6(2), as applicable, the operator shall include in the FMP the developed and implemented practices and procedures.

(b) Apply manure and wastewater to a land application site in accordance with the following practices and procedures beginning no later than February 27, 2009. The operator of such a CAFO that comes into existence after February 27, 2009 shall so apply manure and wastewater upon being defined as such a CAFO.

(i) Conservation Practices--Site-specific conservation practices that have been identified and implemented, including as appropriate, buffers or equivalent practices, to control runoff of pollutants to surface water. Such practices shall include, but are not limited to:

(A) Solid manure shall be incorporated as soon as possible after application, unless the application site has perennial vegetation or is no-till cropped, or except where the operator adequately demonstrates that surface water quality will be protected where manure is not so incorporated.

(B) Where wastewater is applied to a land application site via furrow- or flood-irrigation, it shall be applied in a manner that prevents any wastewater runoff into surface water.

(C) There shall be no discharge to surface water from land application activities when the ground is frozen or saturated.

(D) Manure or wastewater shall not be land-applied within 150 feet of domestic water supply wells, and within 300 feet of community domestic water supply wells.

(ii) Sampling and Analysis--Manure, wastewater, and soil shall be sampled and analyzed with the following frequency. The results of the analyses shall be used in determining application rates for manure and wastewater.

(A) Manure and wastewater shall be sampled and analyzed a minimum of once annually for nitrogen and phosphorus content.

B) The top one foot of soil of land application sites shall be sampled and analyzed for available phosphorus a minimum of once every five years, or as otherwise necessary to meet the transport risk assessment requirements of section 81.6(2)(c)(i), below.

(iii) Protocols established by the operator for land applying manure or wastewater in accordance with site specific nutrient management practices that ensure appropriate utilization of the nutrients in the manure or wastewater. Such protocols shall include, but are not limited to:

(A) No application of manure or wastewater shall be made to a land application site at a rate that will exceed the capacity of the soil and the planned crops to assimilate plant available nitrogen within twelve (12) months of the manure or wastewater being applied.

(B) Manure and wastewater shall be applied as uniformly as possible with properly calibrated equipment.

(C) Application rates of manure and wastewater shall be calculated using: 1) the current published fertilizer suggestions of Cooperative Extension in Colorado or adjacent states; 2) a method provided in a complete and current Comprehensive Nutrient Management Plan (CNMP) that meets United States Department of Agriculture--Natural Resources Conservation Service standards; 3) the current nutrient management planning guidelines for Colorado as published by the United States Department of Agriculture--Natural Resources Conservation Service; or, 4) a method approved by the Division.

(iv) Records--Records identified by the operator that will be maintained to document the implementation and management of the elements described in sections 81.6(2)(b)(i-iii), above.

(A) Such records shall be maintained on-site for five years from the date they are created.

(B) Such records shall be made available to the Division or its designee, upon request.

(c) Nutrient Transport Minimization--Application rates for manure and wastewater applied to a land application site must minimize phosphorus and nitrogen transport from the sites to surface water and shall be in accordance with the following standards.

- (i) Assessments shall be made for each land application site of the potential for phosphorus and nitrogen transport from the site to surface water and that address the form, source, amount, timing, and method of application of nitrogen and phosphorus to achieve realistic yield goals, while minimizing nitrogen and phosphorus movement to surface water.
 - (A) Phosphorus transport risk assessments shall be made using a transport risk-screening tool approved by the Division and that is current, readily available, peer-reviewed, and appropriate for use in Colorado. The screening tool shall provide for off-site transport risk scores of either 'low', 'medium', 'high', and 'very high'.
 - (B) An initial assessment of the potential for phosphorus and nitrogen transport risk to surface water shall be made prior to manure or wastewater being applied to an application site after the operator's Facility Management Plan (FMP) is implemented.
 - (ii) Phosphorus-based manure and wastewater application rates shall be made to an application site where the risk of off-site phosphorus transport is scored as 'high'.
 - (iii) No application of manure or wastewater shall be made to a land application site where the risk of off-site phosphorus transport is rated as 'very high'. Where the initial assessment of a land application site is scored as 'very high', the operator shall have a three-year period within which to manage the site for the purpose of lowering the phosphorus transport risk assessment rating to 'high' or less. During this period, manure and wastewater may be applied to the site at either nitrogen- or phosphorus-based rates.
 - (iv) No application of manure or wastewater shall be made to a land application site where the risk of off-site nitrogen transport to surface water is not minimized.
 - (v) After an initial assessment is made of the potential for phosphorus and/or nitrogen transport from a land application site to surface water, additional assessments shall be made at the following frequency, whichever is sooner:
 - (A) Of both phosphorus and nitrogen transport risk, every five (5) years; or,
 - (B) Where a crop management change has occurred, assess phosphorus transport risk within one (1) year after such change would reasonably result in an increase in the phosphorus transport risk assessment score, and assess nitrogen transport risk within one (1) year after such a change would reasonably result in the nitrogen transport to surface water not being minimized; or,
 - (C) Where a phosphorus transport risk assessment score was 'very high', assess phosphorus transport risk within six (6) months of intending to apply manure or wastewater, except as provided in section 81.6(2)(c)(iv), above.
 - (D) Where a nitrogen transport risk assessment reveals that nitrogen transport to surface water is not minimized, assess nitrogen transport risk within six (6) months of intending to apply manure or wastewater.
 - (vi) Where a multi-year phosphorus application was made to a land application site, no additional manure or wastewater shall be applied to the same site in subsequent years until the applied phosphorus has been removed from the site via harvest and crop removal.
- (c) **Inspect Land Application Equipment**--Periodically inspect for leaks equipment used for land application of manure or wastewater. At minimum, such inspection shall be made annually and within the six month period prior to the first application of manure or wastewater, and at least once daily when wastewater is being applied.
- (d) **Setback Requirements**--Unless the operator exercises one of the alternatives provided below, manure and wastewater shall not be applied closer than 100 feet to any down-gradient surface waters, open tile line intake structures, sinkholes, agricultural well heads, or other conduits to surface water.
- (i) As a setback alternative, the operator may substitute the 100-foot setback with a 35-foot wide vegetated buffer where applications of manure or wastewater are prohibited.
 - (ii) The Division may approve an alternative setback or buffer based on a demonstration by the operator that a required setback or buffer is not necessary because implementation of alternative conservation practices or land application site conditions will provide pollutant reductions equivalent or better than the reductions that would be achieved by the 100-foot setback.
- (e) **Mortalities**--Ensure proper management of animal mortalities to ensure that they are not disposed of in a wastewater storage system that is not specifically designed to treat animal mortalities.

(f) Prevent direct contact of confined animals with surface water.

(g) Ensure that chemicals and other contaminants handled on-site are not disposed of in any manure or wastewater storage system unless specifically designed to treat such chemicals and other contaminants.

(3) Ground water protection elements--Production Area. The operator of a non-permitted Large CAFO shall include in the FMP the following information by no later than February 27, 2009. After February 27, 2009, the FMP shall be updated as necessary to meet the requirements of the sections of this regulation cited below, and by the deadlines specified in the sections.

(a) The impoundment liner certification(s) specified in section 81.8(2)(b).

(b) The current approved Standard Operating Procedure (SOP) specified in section 81.8(3)(a).

(c) Information demonstrating that the facility is in compliance with the depth marker, conveyance structure, and setback requirements specified in sections 81.8(4-6).

Appendix 12-15

Ground Water Protection Requirements - Concentrated Animal Feeding Operations (Permitted And Non-Permitted)

(5 CCR 1002-81, Section 81.8) [Added March 2009]

(1) Tanks at concentrated animal feeding operations shall be operated and maintained so as not to discharge wastewater to ground water.

(2) Impoundment liners

(a) An impoundment at a concentrated animal feeding operation shall be constructed and maintained to comply with one of the following standards, as applicable:

- (i) The seepage rate from an impoundment shall not exceed 1×10^{-6} cm/sec; or
- (ii) Where approved by the Division for an impoundment with an earthen liner, the seepage rate from the impoundment shall not exceed 7.35×10^{-6} cm/sec. The operator of the impoundment shall submit to the Division a request that the impoundment be approved to meet this seepage standard. Such a request shall include, but not be limited to, information documenting that only open-lot wastewater will be diverted to the impoundment, that the impoundment is not designed as an evaporation impoundment, and that the ten (10) foot soil depth zone immediately beneath the impoundment has a cation exchange capacity of at least 15 meq/100 g of soil. Demonstration of compliance with the cation exchange capacity criteria requires the following:
 - (A) At least seven soil samples shall be acquired from below the entire surface area of the impoundment and analyzed for cation exchange capacity.
 - (B) The soil samples shall be reasonably equidistant from each other, with five locations being within ten feet of, and downslope of, the two-foot freeboard elevation of the impoundment, and two locations from the middle of the impoundment.
 - (C) The operator shall have available a map of the impoundment and soil sampling locations.
 - (D) Where soil samples were taken below existing impoundments, the operator shall have available documentation from a professional engineer registered in the State of Colorado of how the core locations were sealed to meet a 1×10^{-6} cm/sec maximum seepage rate.

(b) CAFO operators shall have available documentation, including the supporting information required by section 81.8(2)(b)(iii), prepared by a professional engineer registered in Colorado certifying that the provisions of section 81.8(2) have been met, and stating what constitutes each constructed liner (e.g., synthetic, clay).

- (i) For impoundments constructed prior to June 30, 2004, the liner certification shall be available no later than April 13, 2006.
- (ii) For any impoundment constructed by an operator on or after June 30, 2004 and before February 27, 2009, the liner certification shall be available prior to wastewater entering the impoundment.
- (iii) For any impoundment constructed by an operator on or after February 27, 2009, the liner certification and, where applicable, the seepage rate calculations using Darcy's Law shall be available prior to wastewater entering the impoundment.
- (iv) Copies of the liner certification and supporting information shall be made available to the Division and its designee, upon request. In addition, these documents shall be submitted to the Division as follows:
 - (A) For impoundments constructed after February 1, 2007, and before December 30, 2008, submit the documents by February 27, 2009.
 - (B) For an impoundment constructed after December 30, 2008, submit the documents by no later than 30 days after construction of the impoundment is complete.

(c) A CAFO operator shall visually inspect the exposed liner of an impoundment weekly to identify physical changes or deficiencies that may affect the integrity of the liner. Such deficiencies and physical changes shall be corrected within thirty (30) days of having been identified.

- (i) The operator shall record the date of the inspection, deficiencies identified, corrective actions taken, and dates that corrective action was completed.

- (ii) Deficiencies not corrected within 30 days shall be accompanied by an explanation of the factors preventing completion of corrective actions within this time period.
 - (iii) The records shall be maintained on-site for five years from the date of creation and shall be made available to the Division upon request.
- (3) Removal of manure or wastewater from an impoundment shall be accomplished in a manner that does not damage the integrity of the liner. The operator shall submit to the Division for approval a Standard Operating Procedure ("SOP") that demonstrates how manure, including sludge, will be removed such that the liner integrity of impoundments is not damaged. The SOP also shall indicate the expected frequency with which manure will be removed from impoundments.
 - (a) The approved SOP must be available on-site and be submitted to the Division upon request.
 - (b) The operator shall follow the approved SOP whenever manure, including sludge, is removed. Where the SOP was not followed, the Division may require that the operator make the liner available for inspection. Where the Division has just cause as a result of the inspection, the Division may require re-certification of the liner by a professional engineer registered in Colorado.
 - (c) An existing CAFO shall submit the SOP no later than December 31, 2004.
 - (i) A CAFO that comes into existence after December 31, 2004 shall submit the SOP no later than 120 days after animals are placed on the production area.
 - (ii) The operator shall submit a revised SOP for approval within 30 days of a change having been made to the impoundment(s) at the facility that requires a revision of the SOP, such as a new impoundment or different liner having been constructed.
 - (d) The operator shall certify after each manure or sludge removal event that the manure or sludge was removed in accordance with the approved SOP.
 - (i) For a concrete-lined impoundment, where a certification for each removal event is not completed, the operator shall:
 - (A) Drain and clean the impoundment every five years and use best professional judgment to determine whether the liner integrity is damaged such that the impoundment is no longer capable of having a maximum seepage rate of 1×10^{-6} cm/sec.
 - (B) Where the operator determines that the liner integrity is such that the impoundment remains capable of having a maximum seepage rate of 1×10^{-6} cm/sec, the operator shall so certify within five days of the liner inspection. The certification shall include photographs supporting the determination.
 - (C) Where the operator determines that the liner integrity is damaged such that the impoundment is no longer capable of having a maximum seepage rate of 1×10^{-6} cm/sec, the operator shall:
 - (I) Repair the impoundment within 30 days of the liner inspection so that the liner integrity is such that the impoundment is capable of having a maximum seepage rate of 1×10^{-6} cm/sec.
 - (II) Within 14 days of the impoundment having been repaired, submit to the Division evidence of the repair having been properly completed. The evidence shall consist either of photographs with accompanying written documentation or of other evidence approved by the Division.
 - (ii) The certifications must be available on-site and be submitted to the Division upon request.
 - (e) Where the SOP is not followed the operator shall provide notice to the Division within 30 days of the date of manure removal.
- (4) Any depth marker in an impoundment shall be installed in a manner that maintains the integrity of the liner and maintains the required seepage rate standard.
- (5) Earthen Wastewater Conveyance Structures--Earthen conveyance structures shall be maintained to minimize ponding of wastewater. In addition, such structures shall be constructed and maintained as follows for the purpose of limiting seepage of wastewater in the structures:

- (a) Conveyance structures that carry open-lot wastewater
 - (i) Where constructed in soils that have 35-60 percent gravel, a conveyance structure shall be constructed by sufficiently compacting the existing soil material (less than 60 percent gravel) in place with at least two passes of rubber-tired construction equipment, four passes of track-type equipment, or equivalent, over the entire surface of the conveyance structure. Moisture content of the soil material during compaction shall be maintained to promote sufficient compaction of the in-place materials. The soil should be wet to the touch and leave a stain on the hand when squeezed.
 - (ii) Where constructed in soils that have greater than 60 percent gravel, or in loamy sand or sandy soils with greater than 35 percent gravel, a conveyance structure shall be constructed by placing a compacted liner over the entire surface of the conveyance structure. A conveyance structure liner shall be constructed of soils having less than 60 percent gravel, shall be twelve (12) inches thick, and shall be compacted with at least two passes of rubber-tired construction equipment, four passes of track-type equipment, or equivalent, over the entire surface of the conveyance structure. Moisture content of the soil material during compaction shall be maintained to promote sufficient compaction of the soil liner material. The soil should be wet to the touch and leave a stain on the hand when squeezed. In addition, the constructed liner shall be maintained to retain these standards.
 - (iii) Where constructed in soils having less than 35 percent gravel, a conveyance structure does not need to be lined or compacted.
 - (b) Conveyance structures that carry process-generated wastewater intermittently (greater than 48 hours between conveyance events)--Earthen conveyance structures that carry process-generated wastewater intermittently shall be constructed and maintained in accordance with the standards specified in section 81.8(5)(a)(ii), above.
 - (c) Conveyance structures that carry process-generated wastewater non-intermittently (48 hours or less between conveyance events)--Earthen and non-earthen (e.g., pipe or concrete) conveyance structures that carry process-generated wastewater non-intermittently shall be constructed and maintained to have a maximum seepage rate of 1×10^{-6} cm/sec.
 - (d) Where upon inspection the Division has just cause to determine that the required liner is not in place, the Division may require that the operator submit to the Division a certification that the conveyance structure meets the requirements of section 81.8(5)(b) or (c), or 81.8(5)(a)(ii). The certification shall be made by a professional engineer registered in the State of Colorado.
- (6) Setbacks for New and Expanded Impoundments--A completely new impoundment constructed after June 30, 2008, and an existing impoundment that is expanded by 50 percent or more of existing storage capacity after June 30, 2008, shall not be located:
- (a) Except as provided below, where the seasonally high ground water level is located within four (4) feet of the bottom of the impoundment liner; and
 - (i) Where the seasonally high ground water level is located within four (4) feet of the bottom of the impoundment liner, the impoundment shall be constructed and maintained in accordance with the design by a professional engineer registered in the state of Colorado that prevents ground water from contacting the impoundment's liner.
 - (b) Within 150 feet of a private domestic water supply well or within 300 feet of a community domestic water supply well.
- (7) Ground Water Monitoring--Where an impoundment is not in compliance with section 81.8(2), or where the Division determines that an impoundment liner is not being properly maintained, the Division may require the operator to conduct site-specific ground water quality monitoring of, but not limited to, total nitrogen, ammonia-nitrogen, nitrate-nitrogen, and fecal coliform. In making a determination of whether ground water monitoring is required, the Division shall consider all pertinent factors, including but not limited to: whether the impoundment poses a significant potential risk to beneficial uses of ground water, whether there is suspected contamination of ground water attributable to the facility, whether early detection of ground water contamination is essential to protect valuable drinking water sources, and whether there has been a significant failure on the part of the operator to comply with Section 81.8(2), (3), (4), (6), or (7).

(8) Ground Water Remediation--When the Division determines that non-compliance with Section 81.8(2), (3), (4), (6), or (7) has caused, or contributed to, the exceedance of established ground water quality standards, the operator shall:

(a) Submit, in consultation with the Division, an approvable investigation plan (IP) within 60 days of being notified by the Division of the exceedance, unless an extension of time is granted by the Division based on good faith efforts made by the operator.

(i) The IP must indicate how the nature and extent of the contamination will be delineated and shall include the following, at minimum:

(A) A plan to determine the full vertical and horizontal extent of ground water contamination.

(B) All potential human and environmental receptors, including: 1) all surface water features including springs, streams, and lakes that could be impacted; and 2) all municipal, agricultural, and domestic ground water users.

(C) A plan to obtain other site-specific hydrogeologic data necessary to fully determine the nature and extent of the contamination. These shall include, as appropriate, but not be limited to, the hydraulic conductivity of all hydrogeologic units, associated porosity values, ground water flow directions, regional and local hydraulic gradients, and pumping rates associated with all wells. The Division may require that the operator install additional monitoring wells for the purpose of fully determining the nature and extent of the contamination.

(D) A reasonable timeline for completing the investigation.

(ii) The operator shall implement the IP within 30 days of it being approved by the Division.

(b) The operator shall submit the following information by no later than 60 days after completion of the approved IP, unless an extension of time is granted by the Division based on good faith efforts made by the operator:

(i) A summary report of the findings of the investigation conducted pursuant to section 81.8(8)(a).

(ii) A comparison of all appropriate and applicable remediation alternatives, including innovative technologies, the associated performance and costs of each alternative, the estimated timelines to achieve the required remediation goals, and the monitoring that will be done until the remediation goal(s) is reached. The Division shall review remediation alternatives based on technological, economic, and environmental risk factors. In determining economic reasonableness, the Division shall take into account such factors as costs of the various alternatives, the potential impact of the alternatives on a project's profitability or competitive position, and any long-term energy impacts. In determining environmental risk factors the Division will include potential exposures of sensitive human and environmental receptors. In cases where sensitive human and environmental impacts could occur, the Division may require interim, or emergency, remedial activities.

(c) The operator shall submit an approvable remediation plan (RP) by no later than 60 days of being notified of the Division's preferred remediation alternative, unless an extension of time is granted by the Division based on good faith efforts made by the operator. The RP shall contain designs and plans for implementation of the preferred alternative.

(i) The operator shall implement the RP within 30 days of it being approved by the Division.

(9) Impoundment Closure--The operator of a facility shall remove manure and wastewater from a closed impoundment, to the fullest extent practicable within 60 days of the impoundment being closed, unless an alternative timeline is approved by the Division. Within one hundred twenty (120) days of an impoundment being closed, an impoundment shall be backfilled with soil that is graded to blend with surface topography and prevent ponding, unless an alternative procedure and timeline is approved by the Division.

SECTION 13
WATER QUALITY MANAGEMENT
Colorado Supplement, March 2010

This section covers the state requirements for Water Quality Management and is intended to supplement the U.S. TEAM Guide. Refer to the U.S. TEAM Guide and the DOD Component Supplements for Federal, DOD, and service-specific requirements.

Definitions

- *Agricultural Uses* - the existing or potential future uses of groundwater for the cultivation of soil, the production of crops, and/or the raising of livestock (5 CCR 1002-41, Section 41.3).
- *Aquifer* - a hydrogeologic unit consisting of an interval, or hydraulically connected intervals, of consolidated and/or unconsolidated rock material that is capable of storing and transmitting water. It includes both the saturated and unsaturated zone but does not include the confining layer that separates aquifers (2 CCR 402-2, Rule 5) [Revised March 2001].
- *Background Level* - the level of any parameter in the groundwater within a specified areas as determined by representative measurements of the groundwater quality unaffected by the activity (5 CCR 1002-41, Section 41.3)
- *Bag Filters* - are pressure--driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed of a non-rigid, fabric filtration media housed in a pressure vessel in which the direction of flow is from the inside of the bag to outside (5 CCR 1003-1, Section 1.5.2) [Added March 2008].
- *Bank Filtration* - a water treatment process that uses a well to recover surface water that has naturally infiltrated into ground water through a river bed or bank(s). Infiltration is typically enhanced by the hydraulic gradient imposed by a nearby pumping water supply or other well(s) (5 CCR 1003-1, Section 1.5.2) [Added March 2008].
- *Board* - the state board of examiners of water well construction and pump installation contractors (2 CCR 402-2, Rule 5) [Revised March 2007].
- *Cartridge Filters* - are pressure-driven separation devices that remove particulate matter larger than 1 micrometer using an engineered porous filtration media. They are typically constructed as rigid or semi-rigid, self-supporting filter elements housed in pressure vessels in which flow is from the outside of the cartridge to the inside (5 CCR 1003-1, Section 1.5.2) [Added March 2008].
- *Casing* - the pipe installed to prevent collapse of and provide access to the borehole. The term includes both nonperforated ("solid") pipe, perforated pipe, and screen (2 CCR 402-2, Rule 5) [Revised March 2001].
- *Certified Cross-Connection Control Technician* - a person who has responsibility for the testing, operation, and maintenance of cross-connection containment devices and is certified in accordance with the provisions of Article 12 of this regulation (5 CCR 1003-1, Section 1.5.2) [Revised March 2004; Citation Revised March 2007].
- *Certified Laboratory* - a laboratory certified by the state for analysis of drinking water (5 CCR 1003-1, Section 1.5.2) [Revised March 2004; Citation Revised March 2007].

- *Coagulation* - a process using coagulant chemicals and mixing by which colloidal and suspended materials are destabilized and agglomerated into flocs (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Combined Distribution System* - the interconnected distribution system consisting of the distribution systems of wholesale systems and of the consecutive systems that receive finished water (5 CCR 1003-1, Section 1.5.2) [Added March 2008].
- *Commission* - the Colorado Department of Natural Resources Oil and Gas Conservation Commission (2 CCR 404-1) [Citation Revised March 2009].
- *Community Water System* - a public water system that (5 CCR 1003-1, Section 1.5.2) [Revised April 2000; Revised April 2003; Citation Revised March 2007]:
 1. serves at least 15 service connections used by yr-round residents of the area served by the system; or
 2. regularly serves at least 25 yr-round residents.
- *Compliance Cycle* - a 3-yr (calendar yr) cycle during which public water systems must monitor. Each compliance cycle consists of three, 3-yr compliance periods. The first calendar yr cycle begins 1 January 1993 and ends 31 December 2001; the second begins 1 January 2002 and ends 31 December 2010; the third begins 1 January 2011 and ends 31 December 2019 (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Compliance Period* - a 3-yr (calendar yr) period within a compliance cycle. Each compliance cycle has three, 3-yr compliance periods. Within the first compliance cycle, the first compliance period runs from 1 January 1993 to 31 December 1995; the second from 1 January 1996 to 31 December 1998; the third from 1 January 1999 to 31 December 2001 (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Confluent Growth* - a continuous bacterial growth covering the entire filtration area of a membrane filter, or a portion thereof, in which bacterial colonies are not discrete (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Consecutive System* - a public water system that receives some or all of its finished water from one or more wholesale systems. Delivery may be through a direct connection or through the distribution system of one or more consecutive systems (5 CCR 1003-1, Section 1.5.2) [Added April 2003; Citation Revised March 2007; Revised March 2008].
- *Contaminant* -
 1. as applied to drinking water standards: any physical, chemical, biological, or radiological substance or matter in water (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007]
 2. as applied to wells: any chemical material, organic material, live organisms, radioactive material, or heated or cooled water that will adversely affect the quality of groundwater (2 CCR 402-2, Rule 5).
- *Contamination* - the introduction of contaminants into groundwaters (2 CCR 402-2, Rule 5).
- *Conventional Filtration Treatment* - a series of processes including coagulation, flocculation, sedimentation, and filtration resulting in substantial particulate removal (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Cross-Connection* - any unprotected actual or potential connection or structural arrangement between a public or a consumer's potable water system and any other source or system through which it is possible to introduce into any part of the potable system any used water, industrial fluid, gas, or substance not meeting drinking water requirements in these regulations. By-pass arrangements, jumper connections, removable sections, swivel, or change-over devices and other temporary or permanent devices through which or because of which backflow can or may occur are considered to be cross-connections (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].

- *Cross-Connection-Controlled* - having an accepted backflow prevention device, properly installed and maintained. This device shall continuously provide cross-connection protection commensurate with the degree of hazard (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *CT or CT calc* - the product of residual disinfectant concentration (C) in mg/L determined before or at the first customer, and the corresponding disinfectant contact time (T) in minutes, i.e., $C \times T$ (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Department* - the Colorado Department of Health and Environment (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Diatomaceous Earth Filtration* - a process resulting in substantial particulate removal in which (1) a thin “cake” of diatomaceous earth filter media is deposited on a support membrane (septum), and (2) while the water is filtered by passing through the cake on the septum, additional filter media known as body feed is continuously added to the feed water to maintain the permeability of the filter cake. (5 CCR 1003-1, Section 1.5.2) [Revised April 2003; Citation Revised March 2007].
- *Direct Filtration* - a series of processes including coagulation and filtration but excluding sedimentation resulting in substantial particulate removal (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Disinfectant Contact Time (T in CT calculations)* - the time in minutes that it takes for water to move from the point of disinfectant application or the previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration (“C”) is measured (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Disinfection* - a process which inactivates pathogenic organism in water by chemical oxidants or equivalent agents (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Domestic or Other Nondistribution System Plumbing Problem* - a coliform contamination problem in a public water system with more than one service connection that is limiter to the specific service connection from which the coliform-positive sample was taken (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Domestic Uses* - those existing or potential future uses of groundwater for household or family use, including drinking, gardening, municipal, and/or farmstead uses (5 CCR 1002-41, Section 41.3).
- *Dose Equivalent* - the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Emergency Source/Connection* - a water facility that is only used as the result of extreme circumstances, and is otherwise kept offline. These facilities may be either connected or disconnected from a treatment plant/distribution system (5 CCR 1003-1, Section 1.5.2).
- *Enforcement Order* - an order issued for the purpose of notifying a supplier that he is in violation of the drinking water regulations, or for the purpose of requiring a supplier to cease such violations. Enforcement orders may prescribe corrective measures necessary to achieve compliance with the drinking water regulations (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Exemption* - a form of temporary relief from a maximum contaminant level in finished potable water granted to a public water system pending installation and operation of treatment facilities, acquisition of an alternate source or completion of improvements in treatment processes to bring the system into compliance with the drinking water regulations (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].

- *Filtration* - a process for removing particulate matter from water by passage through porous media (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *First Draw Samples* - as it applies to section 8.2 (Monitoring Requirements for Lead and Copper in Tap Water), means a one-liter sample of tap water that has been standing in plumbing pipes for at least six hours and is collected without flushing the tap (5 CCR 1003-1, Section 1.5.2) [Revised March 2010].
- *Flocculation* - a process to enhance agglomeration or collection of small floc particles into larger, particles that settle easier, through gentle stirring by hydraulic or mechanical means (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Gross Alpha Particle Activity* - the total radioactivity due to alpha particle emission as inferred from measurements on a dry sample (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Gross Beta Particle Activity* - the total radioactivity due to beta particle emission as inferred from measurements on a dry sample (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Groundwater* - any water under the surface of the ground that is neither surface water nor groundwater under the direct influence of surface water (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Groundwater Under the Direct Influence of Surface Water* - any water beneath the surface of the ground with either of the following (5 CCR 1003-1, Section 1.5.2) [Revised April 2003; Citation Revised March 2007]:
 1. significant occurrence of insects or other macro-organisms, algae, or large-diameter pathogens such as Giardia Lamblia or Cryptosporidium (Crypto. only pertains to Subpart H Systems, as defined in 15.3(7), serving at least 10,000 people) or
 2. significant and relatively rapid shifts in water characteristics such as turbidity, temperature, conductivity, or pH which closely correlate to climatological or surface water conditions.
- *Grout* - any material, approved by the Board, that is used to form a permanent impermeable seal in the annulus between the casing and the borehole wall or between two strings of casing, or that is used in plugging, sealing, and abandoning boreholes or wells (2 CCR 402-2, Rule 5) [Revised March 2001].
- *Grouting* - the process by which grout is placed in the borehole or casing (2 CCR 402-2, Rule 5).
- *Halogen* - chlorine, bromine, or iodine (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Horizontal Drain* - a well constructed to increase slope stability or as a permanent dewatering system (2 CCR 402-2, Rule 5).
- *Initial Distribution System Evaluation (IDSE)* - a study and analysis of data to determine locations with representative high TTHM and HAA5 concentrations throughout a system's distribution system (5 CCR 1003-1, Section 1.5.2) [Added March 2008].
- *Integrated System* - two or more public water systems, one of which is a supply system, whose distribution systems are physically connected and who have agreed to operate using a common set of standards that the supply system establishes for the purposes of maintaining and protecting drinking water quality (5 CCR 1003-1, Section 1.5.2) [Added April 2003; Citation Revised March 2007].
- *Legionella* - a genus of bacteria, some species of which have caused a type of pneumonia called Legionnaires disease (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Manmade Beta Particle and Photon Emitters* - all radionuclides emitting beta particles and/or photons listed in "Maximum Permissible Body Burdens and Maximum Permissible Concentration and Radionuclides in Air or Water for Occupational Exposure," NBS Handbook 69, 1980, except the daughter products of thorium-232, uranium-235, and uranium-238 (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].

- *Maximum Contaminant Level or (MCL)* - the maximum permissible level of a contaminant in water, which is delivered to any user of a public water system (5 CCR 1003-1, Section 1.5.2) [Revised March 2007].
- *Maximum Total Trihalomethane Potential* - the maximum concentration of total trihalomethanes produced in a given water containing a disinfectant residual after 7 days at a temperature of 25 °C or above (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Minimum General Sanitary Standards* - the minimum standards for the construction and operation of public water systems reasonable consistent with protection of the public health (5 CCR 1003-1, Section 1.5.2) [Revised April 2003; Citation Revised March 2007].
- *Monitoring and Observation Holes* - a temporary monitoring and observation well. A monitoring and observation hole must be plugged, sealed, and abandoned in less than 1 yr from the date it was constructed unless a permit for a monitoring and observation well has been obtained from the State Engineer (2 CCR 402-2, Rule 5) [Revised March 2001].
- *Natural Swimming Area* - a designated portion of a natural or impounded body of water in which the designated portion is devoted to swimming, recreative bathing, or wading and for which an individual is charged a fee for the use of such area for such purposes. Appurtenances used in connection with the natural swimming area shall also be included (5 CCR 1003-5, Section 1.3) [Added March 1999].
- *Near the First Service Connection* - at one of the 20 percent of all service connections in the entire system that are nearest the water supply treatment facility, as measured by water transport time within the distribution system (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *New Waterworks* - any newly constructed public water system, or existing system that becomes, by definition, a public water system by virtue of increasing the number of connections, the number of individuals served, or the number of days of service (5 CCR 1003-1, Section 1.5.2) [Added April 2000; Citation Revised March 2007].
- *Noncommunity Water System* - public water system that is not a community water system. A non-community water system is further defined as either a transient or a non-transient non-community water system (5 CCR 1003-1, Section 1.5.2) [Revised April 2000; Citation Revised March 2007].
- *Nontransient, Noncommunity Water System* - a noncommunity water system that regularly serves at least 25 of the same persons over 6 mo/yr (schools, workplaces, hospitals, etc.) (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Observation Holes* - see Monitoring Holes.
- *Percolation Holes* - a hole constructed in unsaturated material to determine the infiltration rate into the underlying or adjacent strata (2 CCR 402-2, Rule 5) [Revised March 2001; Citation Revised March 2007].
- *Permanent Foundation Dewatering Systems* - see Sump Pumps.
- *Person* - an individual, corporation, company, association, partnership, municipality, or State, Federal, or tribal agency (5 CCR 1003-1, Section 1.5.2) [Revised March 2007].
- *Piezometer Hole* - a monitoring and observation hole/well that is constructed for the purpose of monitoring or measuring water pressure, soil moisture tension or water level elevation (2 CCR 402-2, Rule 5) [Revised March 2001].
- *Point of Disinfectant Application* - the point where the disinfectant is applied and water downstream of that point is not subject to recontamination (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].

- *Point-of-Entry Treatment Device* - a treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Point-of-Use Treatment Device* - a treatment device used for the purpose of reducing contaminants in drinking water applied to a single faucet or other point of use (i.e., drinking fountain, ice maker, etc.). (5 CCR 1003-1, Section 1.5.2) [Revised March 2007].
- *Presedimentation* - a preliminary treatment process used to remove gravel, sand and other particulate material from the source water through settling before the water enters the primary clarification and filtration processes in a treatment plant (5 CCR 1003-1, Section 1.5.2) [Added March 2008].
- *Plans and Specifications* - the technical design drawings and specifications and, for new waterworks, financial and managerial plans (5 CCR 1003-1, Section 1.5.2) [Added April 2000; Citation Revised March 2010].
- *Public Water System* - a system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. Such term includes (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007]:
 1. any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with such system; and
 2. any collection of pretreatment storage facilities not under such control which are used primarily in connection with such system.
- *Recovery Well* - a well that is constructed specifically for the removal of contaminants from an aquifer (2 CCR 402-2, Rule 5).
- *Rem* - the unit of dose equivalent from ionizing radiation to the body or any internal organ or organ system. A millirem (mrem) is 1/1000 of a rem (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Repeat Compliance Period* - any subsequent compliance period after the initial compliance period (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Residual Disinfectant Concentration (C in CT calculations)* - the concentration of disinfectant measured in mg/L in a representative sample of water (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Sanitary Survey* - an onsite review of the water source, facilities, equipment, operation, and maintenance of a public water system for the purpose of evaluating the ability of the system to produce and distribute safe drinking water (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Sedimentation* - a process for removal of solids before filtration by gravity or separation (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Slow Sand Filtration* - a process involving passage of raw water through a bed of sand at low velocity (generally less than 0.4 m/h) resulting in substantial particulate removal by physical and biological mechanisms (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Standard Sample* - the aliquot of finished drinking water that is examined for the presence of coliform bacteria (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Supplier of Water* - any person who owns or operates a public water system (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Supply System* - a public water system that provides treated drinking water to one or more consecutive systems and is subject to all applicable requirements of these regulations (5 CCR 1003-1, Section 1.5.2) [Added April 2003; Citation Revised March 2007].

- *Surface Water* - all water which is open to the atmosphere and/or subject to surface runoff. Groundwaters found to be under the direct influence of surface water will be classified as surface water (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *System with a Single Service Connection* - a system that supplies drinking water to consumers via a single service line (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *TDS* - total dissolved solids in water (5 CCR 1002-41, Section 41.3).
- *Too Numerous To Count* - that the total number of bacterial colonies exceeds 200 on a 47-mm diameter membrane filter used for coliform detection (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Total Trihalomethanes (TTHM)* - the sum of the concentration in mg/L of the trihalomethane compounds, rounded to two significant figures. These compounds include, but are not limited to, trichloromethane (chloroform), dibromochloromethane, bromodichloromethane and tribromomethane (bromoform) (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Transient, Noncommunity Water System* - a noncommunity water system which does not serving 25 or more of the same people for 60 or more days per yr (i.e., a restaurant, motel, campground, etc.) (5 CCR 1003-1, Section 1.5.2) [Revised April 2003; Citation Revised March 2007].
- *Trihalomethane (THM)*- one of the family of organic compounds, named as derivatives of methane (CH₄), wherein three of the four hydrogen atoms in methane are each substituted by a halogen atom in the molecular structure (CHX₃) (5 CCR 1003-1, Section 1.5.2) [Revised March 2004; Citation Revised March 2007].
- *Variance* - a form of relief from a maximum contaminant level granted to a public water system. Variances may be granted where characteristics of the system's raw water source precludes compliance by the system with the maximum contaminant levels prescribed by the drinking water regulations, despite application of best technology, treatment techniques, or other means generally available to said system. In deliberations regarding variance requests, costs shall be taken into consideration (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Virus* - a virus of fecal origin infectious to humans by waterborne transmission (5 CCR 1003-1, Section 1.5.2) [Revised April 2003; Citation Revised March 2007].
- *Waterborne Disease Outbreak* - the significant occurrence of acute infectious illness, epidemiologically associated with the ingestion of water from a public water system that is deficient in treatment, as determined by the appropriate local agency or this department (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Watertight* - a condition that does not allow the entrance, passage, or flow of water under normal operating conditions (2 CCR 402-2, Rule 5).
- *Water Vending and Dispensing Machines* - any device which, upon payment by insertion of a coin, coins, token, or by other means, dispenses water into a container (5 CCR 1003-1, Section 1.5.2) [Citation Revised March 2007].
- *Well Vault* - an underground structure in which the well casing terminates below ground surface (2 CCR 402-2, Rule 5) [Revised March 2001].

**WATER QUALITY MANAGEMENT
GUIDANCE FOR COLORADO CHECKLIST USERS**

REFER TO CHECKLIST ITEMS:

Missing Checklist Items	WQ.2.1.CO.
Permits/Notifications/Exemptions	WQ.5.1.CO.
Operators	WQ.6.1.CO. through WQ.6.3.CO.
Public Water Systems	
General	WQ.10.1.CO. and WQ.10.4.CO.
Monitoring/Sampling	WQ.15.1.CO. through WQ.15.13.CO.
Disinfection and Filtration	WQ.20.1.CO. through WQ.20.6.CO.
Lead and Copper	[Deleted]
Notification and Reporting Requirements	WQ.30.1.CO. through WQ.30.6.CO.
Community Water Systems	
Standards	[Deleted]
Monitoring/Sampling	[Deleted]
Notification and Reporting Requirements	[Deleted]
Noncommunity Water Systems	
Monitoring/Sampling	WQ.65.1.CO. through WQ.65.12.CO.
Notification and Reporting Requirements	[Deleted]
State Specific Categories of Water Systems	WQ.80.1.CO. through WQ.80.4.CO.
Drinking Water Wells	WQ.90.1.CO. through WQ.90.6.CO.
Miscellaneous Wells	WQ.100.1.CO. through WQ.100.13.CO.
Underground Injection Control (UIC)	
All Wells	WQ.109.1.CO. through WQ.109.5.CO.
Class I Wells	[Moved]
Water Quality Standards	WQ.115.1.CO. through WQ.115.6.CO.
Water Use Permits	WQ.120.1.CO. and WQ.120.2.CO.

**WATER QUALITY MANAGEMENT
GUIDANCE FOR COLORADO APPENDIX USERS**

REFER TO APPENDIX NUMBERS:	REFER TO APPENDIX TITLES:
13-1	[Deleted]
13-2	[Deleted]
13-3	[Deleted]
13-4	[Deleted]
13-5	[Deleted]
13-6	[Deleted]
13-7	[Deleted]
13-8	[Deleted]
13-9	[Deleted]
13-10	[Deleted]
13-11	[Deleted]
13-12	Minimum License and Permit Requirements for Wells
13-13	Surface Water and Groundwater Basic Standards for Radioactive Materials
13-14	Groundwater Organic Chemical Standards
13-15	Human Health Standards for Domestic Use--Quality Groundwaters
13-16	Secondary Drinking Water Standards for Domestic Use-- Quality Groundwaters
13-17	Agricultural Water Standards for Groundwater
13-18	Total Dissolved Solids (TDS) Limitations for Groundwaters

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.2.</p> <p>MISSING CHECKLIST ITEMS</p> <p>WQ.2.1.CO. Federal facilities are required to comply with all applicable state regulatory requirements not contained in the checklist (a finding under this checklist item will have the citation of the applied regulation as a basis of findings).</p>	<p>Determine whether any new regulations have been issued since the finalization of the manual.</p> <p>Determine whether the Federal facility has activities or facilities that are regulated but not addressed in the checklists.</p> <p>Verify that the Federal facility is in compliance with all applicable and newly issued regulations.</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
STATE-SPECIFIC REQUIREMENTS WQ.5. Permits/Notifications/Exemptions WQ.5.1.CO. Department approval must be obtained prior to the construction, improvement, or modification of a waterworks facility (5 CCR 1003-1, Section 1.11.2 [Added May 1998; Revised March 2007].	<p>Verify that the construction of a new community or non-transient, non-community public water system does not begin until the system receives Department approval of a capacity (technical, managerial and financial) assessment.</p> <p>Verify that approval from the Department is obtained prior to the following:</p> <ul style="list-style-type: none"> - the construction of a new waterworks - improvement or modification of the treatment process to an existing waterworks - initiate use of a new source for a waterworks. <p>Verify that all treatment systems serving a community water supply are designed by a professional engineer registered in the State of Colorado.</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>STATE-SPECIFIC REQUIREMENTS</p> <p>WQ.6. Operators</p> <p>WQ.6.1.CO. Water treatment plants must meet operator certification requirements (5 CCR 1003-2, Sections 100.14.6, 100.17.1, 100.18 and 100.21) [Revised March 2001; Revised March 2006].</p>	<p>Verify that no owner of a water facility allows the facility to be operated without the direct supervision of an operator in responsible charge certified in a classification equivalent to or higher than the classification of the facility as specified in these regulations.</p> <p>(NOTE: For purposes of this regulation, "direct supervision" means that the operator in responsible charge has supervisory responsibility and authority with respect to the activities and functions of other facility operators.)</p> <p>Verify that the operator in responsible charge of a water facility holds a valid certificate equal to or greater than the classification of the water facility he or she operates.</p> <p>Verify that water treatment and water distribution operators who conduct analyses for chlorine residual (total, free, or combined), pH, chlorine dioxide (at entry point or in distribution system), chlorite (entry point only), alkalinity, or UV absorbance who hold certifications issued prior to August 1, 2002, complete training in an approved course covering the requirements associated with drinking water analytical procedures and quality assurance.</p> <p>(NOTE: "Operator in responsible charge" means the person designated by the owner of the water facility to be the certified operator(s) who has ultimate responsibility for decisions regarding the daily operational activities of the facility that will directly impact the quality and/or quantity of drinking water.)</p> <p>(NOTE: Operators of water distribution systems certified prior to 30 January 2001 under the voluntary program administered by the Colorado Water and Wastewater Collection Systems Certification Council, Inc., are considered compliant with the certification requirements of this provision. Existing operators, whose responsibility includes making process control and/or system integrity decision about water quality or quantity that may affect the public health or environment, of existing water distribution systems as of 30 January 2001, who have not been certified under the voluntary program administered by the Council, or who hold restricted certificates under the version of the operators certification regulations in effect prior to 30 January 2001, may continue to operate the specific system in which they are currently employed for a period of 2 yr from the issuance of an authorization for continued operation without meeting the certification requirements of this regulation, provided that they have the requisite minimum experience levels provided in section 100.9 and so long as the following requirements are satisfied:</p> <ul style="list-style-type: none"> - the owner of the existing water distribution system applies to the Board for issuance of an authorization for the operator to continue operation without

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<p>WQ.6.2.CO. [Deleted March 2001].</p> <p>WQ.6.3.CO. Small water and transient non-community water systems operators must be certified (5 CCR 1003-2, Sections 100.19.1 and 100.19.2) [Added March 2006].</p>	<p>compliance with the otherwise applicable certification requirements, within one yr of 30 January 2001</p> <ul style="list-style-type: none"> - the operator does not operate any other system until he or she meets the initial certification requirements for that system and obtains a certificate appropriate for that system - within 2 yr from the issuance of an authorization for continued operation under this provision, the operator obtains a certificate, restricted to the operation of the specific system, by meeting all requirements for obtaining certificate renewal including payment of fees, acquiring the minimum training units, and demonstrating to the Board or its designee all requisite skills, knowledge, ability and judgment for the type of system.) <p>(NOTE: Regulations revised; see WQ.6.1.CO. above.)</p> <p>(NOTE: A separate facility classification applies to small water systems serving no more than 3300 persons and which would be classified as a class "D" water treatment facility and as a class "1" water distribution system under the provisions of this regulation. Operator certification requirements for such facilities shall combine Class D Water Treatment and Class 1 Distribution certifications into a single test and certificate, the "Small Water System" certification.)</p> <p>Verify that small water system operators are certified.</p> <p>Verify that transient non-community water system operators are certified (see NOTE below).</p> <p>(NOTE: A separate facility classification applies to transient non-community public water systems that draw water from ground water sources not under the influence of surface water, serve less than 100 individuals per day and utilize treatment consisting only of non-gaseous chlorine disinfection.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>PUBLIC WATER SYSTEMS</p> <p>WQ.10. General</p> <p>WQ.10.1.CO. Public water systems must meet sanitary survey requirements (5 CCR 1003-1, Article 11) [Revised April 2000; Revised April 2003; Revised March 2007; Revised March 2009].</p>	<p>Verify that sanitary surveys are performed by the Department or by a third party approved by the Department.</p> <p>(NOTE: The public water system is responsible for ensuring the survey takes place.)</p> <p>Verify that, until December 1, 2009 a Sanitary Survey is completed for all public water systems at a frequency as follows:</p> <ul style="list-style-type: none"> - for all community and non-community groundwater systems every five years - for non-community water systems using only disinfected and protected groundwater every 10 years - all community systems using surface water or groundwater under the direct influence of surface water every 3 years - for systems determined by the Department to have outstanding performance based on prior sanitary surveys, the frequency of conducting subsequent sanitary surveys may be extended to no less frequently than every 5 years - for all non-community systems using surface water or groundwater under the direct influence of surface water every 5 years. <p>Verify that beginning December 1, 2009, a sanitary survey is completed no less frequently than every three years for community water systems, and every five years for non-community water systems.</p> <p>(NOTE: For community systems that provide at least 4-log treatment of viruses before or at the first customer for all sources and have an outstanding performance record, as determined by the Department and documented in previous sanitary surveys, and have no history of total coliform MCL or monitoring violations since the last sanitary survey, the frequency of conducting subsequent surveys may be extended to no less frequently than every five years.)</p> <p>(NOTE: A Sanitary Survey is composed of, but not limited to, eight components:</p> <ul style="list-style-type: none"> - source(s) - treatment - distribution system - finished water storage - pumps, pump facilities, and controls - monitoring, reporting, and data verification - system management and operation - operator compliance. <p>Verify that a public water system responds in writing to significant deficiencies</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.10.2.CO. Public water systems must meet standards for the control of hazardous cross-connections (5 CCR 1003-1, Article 12.1) [Revised July 1997; Revised April 2003; Revised March 2007].</p>	<p>and violations no later than 45 days after receipt of the report.</p> <p>Verify that the public water system or a consecutive distribution system of a public water system has no cross-connections to a pipe, fixture, or supply containing water not meeting drinking water standards.</p> <p>Verify that the supplier of water protect the public water system from contamination in the following manner:</p> <ul style="list-style-type: none"> - identify potential hazardous service connections - install and maintain Department-approved containment devices on health hazard service connections - installation of containment devices approved by the public water system upon installation - all containment devices are tested on installation and maintained as necessary and at least annually by a Certified Cross-Connection Control Technician. <p>Verify that water suppliers retain maintenance records of all containment devices for at least 3 yr.</p> <p>Verify that the Department is notified of any cross-connection within 10 calendar days of its discovery.</p> <p>Verify that cross-connections are corrected within 10 days of being ordered in writing by the Department to correct the problem.</p>
<p>WQ.10.3.CO. Consecutive water systems must meet monitoring, reporting, and maximum contaminant level requirements (5 CCR 1003-1, Article 1.9) [Added April 2003; Citation Revised March 2007].</p>	<p>Verify that consecutive systems comply with the monitoring and reporting provisions of the drinking water regulations unless the consecutive system is a part of an integrated system where the wholesale system has assumed responsibility for compliance (see WQ.10.4.CO.).</p> <p>(NOTE: Consecutive public water systems that sell water as a secondary aspect of their business only to recover costs, such as apartment buildings and commercial establishments, are exempt from this requirements. If an entity is found to be selling water for profit any such entity will, after notification from the Water Quality Control Division, meet all monitoring requirements.)</p> <p>Verify that consecutive systems, unless exempted from the monitoring requirements, meet the Maximum Contaminant Levels and other requirements of the drinking water regulations unless such consecutive system is part of an integrated system (see WQ.10.4.CO.).</p> <p>(NOTE: While not a requirement of these regulations, consecutive systems are also subject to the applicable requirements of Regulation 100, the Water and Wastewater Facility Operators Certification Requirements. Where a wholesale system has assumed responsibility for the operation and maintenance of a</p>

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<p>WQ.10.4.CO. Integrated water systems must meet specific requirements (5 CCR 1003-1, Article 1.10) [Added April 2003; Citation Revised March 2007].</p>	<p>distribution system for a consecutive system, in accordance with the requirements for an integrated system, the supply system becomes the operator in responsible charge of such distribution system and is responsible to meet the applicable requirements of Regulation 100 in lieu of the consecutive system.)</p> <p>Verify that an integrated system has Division approval.</p> <p>Verify that the established common set of operating and maintenance standards are followed.</p> <p>Verify that all requirements are included in a contract, memorandum of agreement, or other enforceable mechanism.</p> <p>Verify that all the requirements for monitoring, reporting, and maximum contaminant levels, and any other standards are met by the responsible parties.</p> <p>Verify that, when a new and proposed consecutive system is added to an integrated system, 30 days notice is provided to the Division.</p> <p>Verify that, when a consecutive system voluntarily separates from an integrated system, the consecutive system immediately notifies the Division of the date of separation and the regulatory provision(s) for which the consecutive system was included in that integrated system.</p>

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
PUBLIC WATER SYSTEMS		
WQ.15. Monitoring/ Sampling		
WQ.15.1.CO. [Deleted March 2007].		(NOTE 5 CCR 1003-1, Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.23. In addition, 5 CCR 1003-1, Article 6.2.5, Volatile Organic Contaminant Monitoring Requirements, and Article 6.2.6, Synthetic Organic Contaminant Monitoring Requirements are equivalent to 40 CFR 141.24 in terms of sampling requirements.)
WQ.15.2.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 5.1.1, Routine Monitoring for Coliform, is equivalent to 40 CFR 141.21 (a).)
WQ.15.3.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 5.1.2, Repeat Monitoring for Coliform, is equivalent to 40 CFR 141.21 (b).)
WQ.15.4.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 5.4, Fecal Coliforms/Escherichia Coli (E.coli) Testing, is equivalent to 40 CFR 141.21 (e).)
WQ.15.5.CO. Public water systems must use certified laboratories for the analysis for determining compliance with microbiological regulations (5 CCR 1003-1, Article 5.5) [Citation Revised May 1998].		Verify that microbiological samples are analyzed by a laboratory certified by the Department.
WQ.15.6.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 5.6, Response to Violation, is equivalent to 40 CFR 141.21 (g).)
WQ.15.7.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 7.1.3, Filtration, is equivalent to 40 CFR 141.73.)

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
WQ.15.8.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 7.1.4, Monitoring Requirements, is equivalent to 40 CFR 141.74 (b).)
WQ.15.9.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)
WQ.15.10.CO. [Deleted March 2007]		(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)
WQ.15.11.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1 Article 6 2.2, Acrylamide and Epichlorohydrin Certification, is equivalent to 40 CFR 141.111.)
WQ.15.12.CO. Public water systems must analyze samples by a certified laboratory except that measurements for alkalinity, calcium, conductivity, disinfectant residual, orthophosphate, pH, silica, temperature and turbidity may be performed by an certified operator (5 CCR 1003-1, Article 10.10.1)) [Citation Revised May 1998; Citation Revised March 2007; Revised March 2010].		Verify that samples are analyzed by a laboratory certified by the Department except that measurements for alkalinity, calcium, conductivity, disinfectant residual, orthophosphate, pH, silica, temperature and turbidity may be performed by an certified operator.
WQ.15.13.CO. Public water systems must submit a monitoring plan (5 CCR 1003-1, Article 1.12) [Added March 2007].		Verify that all public water systems submit a monitoring plan to the Department according to the following schedule: <ul style="list-style-type: none"> - systems using surface water or groundwater under the direct influence of surface water, serving a population of greater than 10,000 persons: no later than April 10, 2002, or 10 calendar days following the end of the first required monitoring quarter thereafter - all groundwater systems serving a population of greater than 3,300 persons, and all systems using surface water or groundwater under the direct influence of surface water serving a population of greater than 3,300, but less

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	<p>than 10,001 persons and using a disinfectant in their treatment process: no later than April 10, 2004, or 10 calendar days following the end of the first required monitoring quarter thereafter</p> <ul style="list-style-type: none"> - all other community water systems no later than April 10, 2005, or 10 calendar days following the end of the first required monitoring quarter thereafter - all other non-community water systems no later than April 10, 2006, or 10 calendar days following the end of the first required monitoring quarter thereafter. <p>Verify that a public water system submits any changes related to the monitoring plan to the Department within 30 calendar days following the effective date of the change.</p> <p>(NOTE: The monitoring plan consists of five parts:</p> <ul style="list-style-type: none"> - system summary - water source details -water treatment details - distribution system details - individual rule sampling plans.)

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PUBLIC WATER SYSTEMS WQ.20. Disinfection And Filtration WQ.20.1.CO. Public water systems that use surface water sources must provide disinfection and filtration (5 CCR 1003-1, Article 7.1.2(a)) [Revised April 2003, Revised March 2007].	(NOTE: 5 CCR 1003-1 Article 7.1.1, Filtration and Disinfection for Surface Water, is equivalent to 40 CFR 141.70. 40 CFR 141.71 states a system has 18 months to meet the disinfection criteria.) Verify that once a groundwater source is determined to be under the direct influence of surface water, the system provides disinfection treatment beginning 60 days from the date the system was reclassified.	
WQ.20.2.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 7.1.2(c), Disinfection, is equivalent to 40 CFR 141.72.)	
WQ.20.3.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 7.1.4, Monitoring Requirements, is equivalent to 40 CFR 141.74(b).)	
WQ.20.4.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 7.1.5, Reporting and Recordkeeping Requirements, is equivalent to 40 CFR 141.75.)	
WQ.20.5.CO. [Deleted March 2008].	(NOTE: Deleted March 2008; Colorado has adopted requirements equivalent to the Federal at 40 CFR 133 et seq.)	
WQ.20.6.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003 Article 7.2, Enhanced Surface Water Treatment – Systems Serving 10,000 or more, is equivalent to 40 CFR 141.170.)	

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
PUBLIC WATER SYSTEMS WQ.25. Lead And Copper		
WQ.25.1.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.1, General Requirements for Lead and Copper Control, is equivalent to 40 CFR 141.80.)
WQ.25.2.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.5, Monitoring Requirements for Water Quality Parameters, is equivalent to 40 CFR 141.87.)
WQ.25.3.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.7, Monitoring Requirements for Lead and Copper in Tap Water, is equivalent to 40 CFR 141.86.)
WQ.25.4.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.7, Monitoring Requirements for Lead and Copper in Tap Water, is equivalent to 40 CFR 141.86.)
WQ.25.5.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.9, Monitoring Requirements for Lead and Copper in Source Water, is equivalent to 40 CFR 141.88.)
WQ.25.6.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.3, Description of Corrosion Control Treatment Requirements, is equivalent to 40 CFR 141.83.)
WQ.25.7.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.2, Corrosion Control Treatment Steps, is equivalent to 40 CFR 141.81.)
WQ.25.8.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 8.6, Public Education and Supplemental Monitoring Requirements for Lead and Copper, is equivalent to 40 CFR 141.85.)

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<p>PUBLIC WATER SYSTEMS</p> <p>WQ.30. Notification And Reporting Requirements</p> <p>WQ.30.1.CO. Suppliers of water must meet recordkeeping standards (5 CCR 1003-1, Section 1.6.3) [Revised March 2007; Revised March 2008].</p>	<p>Verify that the following records are retained on the premises, or at a convenient location near the premises for the required number of yr:</p> <ul style="list-style-type: none"> - records of microbiological analyses and turbidity, 5 yr - records of chemical analyses, 10 yr - records of corrective action taken, 3 yr - copies of any written reports, summaries or communications relating to sanitary surveys, 10 yr - records of variances or exemptions granted to the system, 5 yr following the expiration of a variance or exemption - copies of public notices and consumer confidence reports, 3 years - copies of monitoring plans developed pursuant to this section, 5 yr (except as specified elsewhere in this section). <p>Verify that actual laboratory reports or data transferred to tabular summaries, include the following information:</p> <ul style="list-style-type: none"> - the date, place, and time of sampling, and the name of the person who collected the sample - identification of the sample as to whether it was a routine distribution system sample, routine entry-point-to-the-distribution-system sample (EPTDS), confirmation sample, raw or processed water sample or a special purpose sample - date of analysis - laboratory and person responsible for performing analysis - the analytical technique/method used - the results of the analyses. <p>Verify that systems that are subject to the individual filter turbidity requirements maintain results of individual filter monitoring for 3 yrs.</p> <p>Verify that systems that are subject to the requirements for disinfection profiling maintain results of profile (including raw data and analysis) indefinitely.</p> <p>Verify that systems that are subject to requirements for disinfection benchmarking maintain benchmark data (including raw data and analysis) indefinitely.</p> <p>Verify that systems collect and retain on file the following recycle flow information</p> <ul style="list-style-type: none"> - a copy of the recycle notification and information submitted to the

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		<p>Department under section 7.5.2</p> <ul style="list-style-type: none"> - a list of all recycle flows and the frequency with which they are returned - the average and maximum backwash flow rate through the filters and the average and maximum duration of the filter backwash process in minutes - the typical filter run length and a written summary of how filter run length is determined - the type of treatment provided for the recycle flow - data on the physical dimensions of the equalization and/or treatment units, typical and maximum hydraulic loading rates, type of treatment chemicals used and average dose and frequency of use, and frequency at which solids are removed, if applicable. <p>Verify that systems keep results from the initial round of source water monitoring and the second round of source water monitoring until 3 years after bin classification.</p> <p>Verify that systems keep any notification to the Department that they will not conduct source water monitoring due to meeting the criteria of section 7.4.2(d) for 3 years.</p> <p>Verify that systems keep the results of treatment monitoring associated with microbial toolbox options for 3 years.</p> <p>Verify that systems retain a complete copy of the initial distribution system evaluation (IDSE) report for 10 years after the date that the report was submitted.</p> <p>(NOTE: If the Department modifies the section 7.8 monitoring requirements as recommended in the IDSE report or if the Department approves alternative monitoring locations, the system will keep a copy of the Department's notification on file for 10 years after the date of the Department's notification. The system will make the IDSE report and any Department notification available for review by the Department or the public.)</p>
WQ.30.2.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 1.6.4, Reporting Requirements, is equivalent to 40 CFR 141.31.)
WQ.30.3.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 9.2.8, Special Notice for Exceedance of the SMCL for Fluoride, is equivalent to 40 CFR 141.208.)
WQ.30.4.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 1.6.4, Reporting Requirements, is equivalent to 40 CFR 141.31.)

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
WQ.30.5.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 8.10, Reporting Requirements for Lead and Copper, is equivalent to 40 CFR 141.90 and 5 CCR 1003-1, Article 8.11, Recordkeeping Requirements for Lead and Copper, is equivalent to 40 CFR 141.91.)
WQ.30.6.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 9.2, Public Notification Reporting Requirements, is equivalent to 40 CFR Subpart Q.)

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COMMUNITY WATER SYSTEMS WQ.35. Standards		
WQ.35.1.CO. March 2007].	[Deleted	(NOTE: Maximum Contaminant Level (MCL) standards for inorganic and organic chemicals are equivalent to federal requirements.)
WQ.35.2.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity, is equivalent to 40 CFR 141.26.)
WQ.35.3.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity, is equivalent to 40 CFR 141.26.)

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
COMMUNITY WATER SYSTEMS		
WQ.40. Monitoring/ Sampling		
WQ.40.1.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-5.1.1, Total Coliform Monitoring Frequency, is equivalent to 40 CFR 141.21(a).)
WQ.40.2.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)
WQ.40.3.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)
WQ.40.4.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)
WQ.40.5.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.1.7, Special Monitoring for Sodium, is equivalent to 40 CFR 141.41.)
WQ.40.6.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.4, Unregulated Contaminant Monitoring, states that all community and non-transient, non-community water systems must monitor for the unregulated contaminants as described in 40 CFR 141.40.)
WQ.40.7.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(f).)
WQ.40.8.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(f).)
WQ.40.9.CO.	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement		
REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
March 2007].		Requirements, is equivalent to 40 CFR 141.24(f).)
WQ.40.10.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.6, Synthetic Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(h).)
WQ.40.11.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 7.3, Enhanced surface Water Treatment – Systems Serving Fewer than 10,000, is equivalent to 40 CFR subpart T.)
WQ.40.12.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 7.3, Enhanced surface Water Treatment – Systems Serving Fewer than 10,000, is equivalent to 40 CFR subpart T.)
WQ.40.13.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 10.3.2, PCB Analysis, is equivalent to 40 CFR 141.24(h)(13).)
WQ.40.14.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(f).)
WQ.40.15.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.4, Unregulated Contaminant Monitoring, states that all community and non-transient, non-community water systems must monitor for the unregulated contaminants as described in 40 CFR 141.40.)
WQ.40.16.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity , is equivalent to 40 CFR 141.26.)
WQ.40.17.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity , is equivalent to 40 CFR 141.26.)
WQ.40.18.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity, is equivalent to 40 CFR 141.26.)

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
WQ.40.19.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity, is equivalent to 40 CFR 141.26.)
WQ.40.20.CO. [Deleted March 2007].		(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity, is equivalent to 40 CFR 141.26.)

<p align="center">COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement</p>	
<p align="center">REGULATORY REQUIREMENTS:</p>	<p align="center">REVIEWER CHECKS: March 2010</p>
<p>COMMUNITY WATER SYSTEMS</p> <p>WQ.45. Notifications and Reporting Requirements</p> <p>WQ.45.1.CO. [Deleted April 2003].</p> <p>WQ.45.2.CO. [Deleted April 2003].</p>	<p>(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)</p> <p>(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement		
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010	
NONCOMMUNITY WATER SYSTEMS WQ.65. Monitoring/ Sampling WQ.65.1.CO. Noncommunity water systems that are not open yr-round, must monitor for total coliform at least 10 days prior to opening for the season (5 CCR 1003-1, Article 5.1.1(e)(5)).	(NOTE: 5 CCR 1003-5.1.1 , Total Coliform Monitoring Frequency, is equivalent to 40 CFR 141.21(a) except for the following requirement.) Verify that non-community water systems that are not open yr-round, monitor for total coliform at least 10 days prior to opening for the season.	
WQ.65.2.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 MCLs for Inorganic and Organic Chemical Contaminants, is equivalent to 40 CFR 141.61 and 141.62.).	
WQ.65.3.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)	
WQ.65.4.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)	
WQ.65.5.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)	
WQ.65.6.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)	
WQ.65.7.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(f).)	
WQ.65.8.CO. [Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring	

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REGULATORY REQUIREMENTS:		REVIEWER CHECKS: March 2010
March 2007].		Requirements, is equivalent to 40 CFR 141.24(f).)
WQ.65.9.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.5, Volatile Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(f).)
WQ.65.10.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.2.6, Synthetic Organic Contaminant Monitoring Requirements, is equivalent to 40 CFR 141.24(h).)
WQ.65.11.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 10.3.2, PCB Analysis, is equivalent to 40 CFR 141.24(h)(13).)
WQ.65.12.CO. March 2007].	[Deleted	(NOTE: 5 CCR 1003-1 Article 6.4, Unregulated Contaminant Monitoring, states that all community and non-transient, non-community water systems must monitor for the unregulated contaminants as described in 40 CFR 141.40.)

<p align="center">COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement</p>	
<p align="center">REGULATORY REQUIREMENTS:</p>	<p align="center">REVIEWER CHECKS: March 2010</p>
<p>NONCOMMUNITY WATER SYSTEMS</p> <p>WQ.75. Notification And Reporting Requirements</p> <p>WQ.75.1.CO. [Deleted April 2003].</p> <p>WQ.75.2.CO. [Deleted April 2003].</p>	<p>(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)</p> <p>(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)</p>

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NONCOMMUNITY WATER SYSTEMS

WQ.75. Notification And Reporting Requirements

WQ.75.1.CO. [Deleted April 2003].

(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)

WQ.75.2.CO. [Deleted April 2003].

(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
WQ.80. STATE-SPECIFIC CATEGORIES OF WATER SYSTEMS	
WQ.80.1.CO. [Deleted March 2007].	(NOTE: 5 CCR 1003-1 Article 6.1.5, Inorganic Chemical Monitoring, is equivalent to 40 CFR 141.3.)
WQ.80.2.CO. Noncommunity water systems that are not open yr-round, must monitor for total coliform at least 10 days prior to opening for the season (5 CCR 1003-1, Article 5.1.1(e)(5)) [Revised March 2007].	(NOTE: 5 CCR 1003 Article 5.1.1, Total Coliform Monitoring Frequency, is equivalent to 40 CFR 141.21(a) except for the following item.) Verify that non-community water systems that are not open year-round, monitor for total coliform at least 10 days prior to opening for the season.
WQ.80.3.CO. [Deleted April 2003].	(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)
WQ.80.4.CO. [Deleted April 2003].	(Regulation replaced with 10.3, adoption of Federal regulation: 40 CFR. Part 141, Subpart Q, Public Notification Rule.)

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.90.</p> <p>DRINKING WATER WELLS</p> <p>WQ.90.1.CO. Well construction must meet permitting and licensing standards (2 CCR 402-2, Rule 6.2) [Added March 2005; Revised March 2007].</p> <p>WQ.90.2.CO. Well construction and pump installation must be performed by licensed contractors or persons operating under a permit (2 CCR 402-14, Rule 6.1 and 402-2, Rule 6.3) [Added March 2005; Revised March 2007; Citation Revised March 2010].</p>	<p>Verify that a valid permit issued by the state engineer is obtained prior to:</p> <ul style="list-style-type: none"> - constructing a new well - repair, replacement, or modification of an existing well - installing certain dewatering systems as specified by the State Engineer - installing pumping equipment that will withdraw ground water for beneficial use - changing the producing interval of an existing well - installing the initial pumping system or a pumping system having a sustained production rate in excess of the permitted pumping rate. <p>(NOTE: The extraction of casing or pumping equipment for the purpose of repair or replacement does not require a new permit if the interval of perforated casing is not altered and the production rate does not exceed the rate specified on the existing valid well permit.)</p> <p>Verify that a copy of the permit is available and posted at the well site at all times when working on a new well or when performing work for which a permit is required.</p> <p>Verify that the terms and conditions of the permit are met.</p> <p>(NOTE: 2 CCR 402-2 applies to the construction of water wells, test holes, dewatering wells, monitoring and observation wells, well plugging and sealing (abandonment), and pump installation and repair.)</p> <p>(NOTE: Repeated in WQ.100.1.CO.)</p> <p>Verify that only licensed individuals performing either:</p> <ul style="list-style-type: none"> - the construction and/or the repair of wells - the installation and/or repair of pumping equipment. <p>Verify that the following activities are performed by a licensed contractor, a direct employee of the licensed contractor, or by a person who is under supervision of an individual having a valid license issued by the state unless exempt (see Appendix 13-12):</p> <ul style="list-style-type: none"> - well construction, repair, modification, plugging, sealing or abandonment - pump installation, repair or modification.

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.90.3.CO. Well plugging and sealing must meet specific requirements (2 CCR 402-2, Rule 16.1 and 16.1.2) [Added March 2005].</p>	<p>Verify that individuals who use special equipment or perform limited procedures in well construction or pump installation obtain a special license from the Board prior to engaging in such specialized service.</p> <p>(NOTE: See WQ.90.1.CO. for applicability of 2 CCR 402-2.)</p> <p>(NOTE: Repeated in WQ.100.2.CO.)</p> <p>Verify that wells, monitoring and observation wells, monitoring and observation holes and test holes that are no longer intended for use, and dry holes, collapsed or unusable boreholes, and other incomplete wells or excavations, are plugged, sealed and abandoned so as to prevent contamination of ground water and the migration of water through the borehole.</p> <p>Verify that well owners ensure that existing wells are properly plugged, sealed and abandoned.</p> <p>(NOTE: The well construction contractor or authorized individual is responsible for notifying the well owner in writing of these plugging requirements.)</p> <p>(NOTE: Persons authorized to install pumping equipment may plug, seal and abandon wells that do not require the removal of casing that penetrates more than one aquifer or the ripping or perforating of casing opposite confining layers.)</p> <p>(NOTE: See WQ.90.1.CO. for applicability of 2 CCR 402-2.)</p> <p>(NOTE: Repeated in WQ.100.7.CO.)</p>
<p>WQ.90.4.CO. Wells used to produce groundwater must meet specific testing standards (2 CCR 402-2, Rule 12) [Added March 2005].</p>	<p>Verify that wells constructed for the purpose of producing ground water are tested to determine:</p> <ul style="list-style-type: none"> - a yield test for the well - the production rate of the equipment installed when the well is placed into service. <p>Verify that the yield of a well is determined as a stabilized production rate where the withdrawal rate and the drawdown do not change by more than 10 percent during the last hour of the test.</p> <p>(NOTE: Well construction contractors are responsible for performing the well yield test and submitting the test data to the State Engineer. If the construction contractor also installs the production equipment, the well yield test may be combined with the production equipment test. The construction contractor may forgo the well yield test if he can show that a licensed pump installer will perform the well yield test with the permanent production equipment within 60 days of his</p>

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<p>WQ.90.5.CO. Well construction, related installations, and plugging and sealing must be reported (2 CCR 402-2, Rule 17) [Revised May 1998].</p>	<p>drilling of the well.)</p> <p>Verify that the production equipment installed in wells is tested to make sure it is functioning as designed.</p> <p>(NOTE: Pump installation contractors are responsible for testing the production equipment installed in a well upon completion of their work. If the well construction contractor determined the well yield and submitted a report, the pump installer need not perform another well yield test. If the pump installer does not perform a well yield test with the permanent production equipment, he must perform a production equipment test and report the data (results) to the State Engineer.)</p> <p>(NOTE: See WQ.90.1.CO. for applicability of 2 CCR 402-2.)</p> <p>(NOTE: Repeated in WQ.100.10.CO.)</p> <p>Verify that well construction contractors, authorized individuals, or private drillers report where, how and when any of the following were drilled:</p> <ul style="list-style-type: none"> - a test hole penetrating a confining layer - a well - a monitoring and observation hole/well. <p>Verify that the report describes the specifics of each well or hole construction and includes a lithologic log of the geology, a geophysical log (if required by the permit), and detailed information from the well test.</p> <p>Verify that pump installation contractors and private pump installers submit a report when the permanent pump is originally installed that describes the pump, date of installation, its depth setting and results from the production equipment test.</p> <p>Verify that a Well Abandonment Report is submitted for each test hole penetrating a confining layer, well, monitoring and observation hole/well, or dewatering well that has been plugged, sealed and abandoned.</p> <p>Verify that the Well Abandonment Report identifies the well or hole that was plugged by location and permit number, monitoring hole number, or other authorization of construction, and contains a detailed description of how the well or hole was plugged, including types and amounts of materials used, and the placement method and intervals of those materials.</p> <p>Verify that the Well Abandonment Report is submitted to the State Engineer when the use of test holes penetrating a confining layer, monitoring and observation wells or holes, or dewatering wells ceases.</p> <p>Verify that work reports are submitted to the State Engineer within 60 days after</p>

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<p>WQ.90.6.CO. If required by the Commission, well owners must maintain meters to record withdrawals and submit the records to the Colorado Ground Water Commission upon request (2 CCR 410-1, Rule 8) [Added March 2005].</p>	<p>completion of the well construction, pump installation or other work required to be reported, or within 7 days after the expiration of the permit or other authorization, whichever is sooner.</p> <p>Verify that work reports are signed and certified as to accuracy and truthfulness of the information on the report by the well construction or pump installation contractors or authorized individuals responsible for the work performed by them or under their direction or supervision, or by the private driller or private pump installer if the work was performed by them.</p> <p>(NOTE: Well construction and pump installation contractors will provide a copy of all work reports to the well owner.)</p> <p>(NOTE: See WQ.90.1.CO. for applicability of 2 CCR 402-2.)</p> <p>(NOTE: Repeated in WQ.100.12.CO.)</p> <p>Verify that when a flow meter is required, the owner maintains the meter in acceptable operating condition to provide a continuous, accurate record of withdrawals.</p> <p>Verify that as a minimum, flow meters are installed according to the manufacturer's recommendations and contain sufficient recording digits to assure that "roll over" to zero does not occur within three years.</p> <p>Verify that the well is not pumped if the meter is not operational unless a working meter is installed or unless a specific backup water measurement program approved by the Commission is put into effect.</p> <p>Verify that well owners record the meter reading as required but no less than once each year, retain these records, and submit them to the Colorado Ground Water Commission and the applicable management district upon request.</p> <p>(NOTE: Repeated in WQ.100.13.CO.)</p>

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.100.3.CO. Excavations excluded from well construction licensing or permitting must meet specific requirements (2 CCR 402-2, Rule 9.2 through 9.6) [Revised May 1998; Revised March 2001].</p>	<p>(NOTE: Repeated in WQ.90.2.CO.)</p> <p>(NOTE: The following types of excavations which do not penetrate through a confining layer between aquifers that are recognized by the state engineer, are exempt from the requirement of construction by a licensed contractors:</p> <ul style="list-style-type: none"> - dewatering wells - horizontal drains - monitoring and observation holes and wells - percolation holes - piezometer holes - recovery wells - dewatering systems - test holes.) <p>Verify that the Division of Water Resources is notified not less than 3 days prior to the construction of any dewatering well or monitoring and observation hole.</p> <p>Verify that a Well Construction and Test Report is submitted for each monitoring and observation hole constructed.</p> <p>(NOTE: A well construction report is not required for the construction of a dewatering well unless the well is permitted as a dewatering system.)</p> <p>Verify that excavations authorized under this exemption meet the construction standards for the type of well, or, if no standards exist for that particular type of well, the standards for water wells.</p> <p>Verify that, if during construction of an excavation, the borehole penetrates a confining layer into a lower aquifer, the hole is plugged back through the confining layer with at least 20 ft of cement or cement-bentonite grout, or through the entire confining layer, whichever is greater, or the hole is plugged, sealed and abandoned within 24 hr.</p> <p>Verify that all excavations authorized are plugged, sealed and abandoned according to the provisions of Rule 16 (see WQ.100.7.CO.).</p> <p>Verify that monitoring and observation holes, dewatering wells, and other excavations are not converted to production water wells.</p> <p>(NOTE: Upon obtaining a permit from the State Engineer, a monitoring and observation hole or dewatering well constructed in accordance with proper notice may be converted only to a monitoring and observation well, recovery well for purposes of aquifer remediation, or dewatering system for dewatering of the aquifer.)</p> <p>(NOTE: See WQ.100.1.CO. for applicability of 2 CCR 402-2.)</p>

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WQ.100.4.CO. [Deleted March 2001].		(NOTE: Regulations revised.)
WQ.100.5.CO. [Deleted March 2001].		(NOTE: Regulations revised.)
WQ.100.6.CO. [Deleted March 2001].		(NOTE: Regulations revised.)
WQ.100.7.CO. Well plugging and sealing must meet specific requirements (2 CCR 402-2, Rule 16.1 and 16.1.2) [Revised May 1998; Revised March 2001].		Verify that wells, monitoring and observation wells, monitoring and observation holes and test holes that are no longer intended for use, and dry holes, collapsed or unusable boreholes, and other incomplete wells or excavations, are plugged, sealed and abandoned so as to prevent contamination of ground water and the migration of water through the borehole. Verify that well owners ensure that existing wells are properly plugged, sealed and abandoned. (NOTE: The well construction contractor or authorized individual is responsible for notifying the well owner in writing of these plugging requirements.) (NOTE: Persons authorized to install pumping equipment may plug, seal and abandon wells that do not require the removal of casing that penetrates more than one aquifer or the ripping or perforating of casing opposite confining layers.) (NOTE: See WQ.100.1.CO. for applicability of 2 CCR 402-2.)
WQ.100.8.CO. [Deleted March 2001].		(NOTE: Regulations revised.)
WQ.100.9.CO. [Deleted March 2001].		(NOTE: Regulations revised.)
WQ.100.10.CO. Wells used to produce groundwater must meet specific testing		Verify that wells constructed for the purpose of producing ground water are tested to determine:

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standards (2 CCR 402-2, Rule 12) [Added May 1998].	<ul style="list-style-type: none"> - a yield test for the well - the production rate of the equipment installed when the well is placed into service. <p>Verify that the yield of a well is determined as a stabilized production rate where the withdrawal rate and the drawdown do not change by more than 10 percent during the last hour of the test.</p> <p>(NOTE: Well construction contractors are responsible for performing the well yield test and submitting the test data to the State Engineer. If the construction contractor also installs the production equipment, the well yield test may be combined with the production equipment test. The construction contractor may forgo the well yield test if he can show that a licensed pump installer will perform the well yield test with the permanent production equipment within 60 days of his drilling of the well.)</p> <p>Verify that the production equipment installed in wells is tested to make sure it is functioning as designed.</p> <p>(NOTE: Pump installation contractors are responsible for testing the production equipment installed in a well upon completion of their work. If the well construction contractor determined the well yield and submitted a report, the pump installer need not perform another well yield test. If the pump installer does not perform a well yield test with the permanent production equipment, he must perform a production equipment test and report the data (results) to the State Engineer.)</p> <p>(NOTE: See WQ.100.1.CO. for applicability of 2 CCR 402-2.)</p>
WQ.100.11.CO. [Deleted March 2001].	<p>(NOTE: Regulations revised.)</p>
WQ.100.12.CO. Well construction, related installations, and plugging and sealing must be reported (2 CCR 402-2, Rule 17) [Revised May 1998].	<p>Verify that well construction contractors, authorized individuals, or private drillers report where, how and when any of the following were drilled:</p> <ul style="list-style-type: none"> - a test hole penetrating a confining layer - a well - a monitoring and observation hole/well. <p>Verify that the report describes the specifics of each well or hole construction and includes a lithologic log of the geology, a geophysical log (if required by the permit), and detailed information from the well test.</p> <p>Verify that pump installation contractors and private pump installers submit a report when the permanent pump is originally installed that describes the pump, date of installation, its depth setting and results from the production equipment</p>

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<p>WQ.100.13.CO. If required by the Commission, well owners must maintain meters to record withdrawals and submit the records to the Colorado Ground Water Commission upon request (2 CCR 410-1, Rule 8) [Added March 2004].</p>	<p>test.</p> <p>Verify that a Well Abandonment Report is submitted for each test hole penetrating a confining layer, well, monitoring and observation hole/well, or dewatering well that has been plugged, sealed and abandoned.</p> <p>Verify that the Well Abandonment Report identifies the well or hole that was plugged by location and permit number, monitoring hole number, or other authorization of construction, and contains a detailed description of how the well or hole was plugged, including types and amounts of materials used, and the placement method and intervals of those materials.</p> <p>Verify that the Well Abandonment Report is submitted to the State Engineer when the use of test holes penetrating a confining layer, monitoring and observation wells or holes, or dewatering wells ceases.</p> <p>Verify that work reports are submitted to the State Engineer within 60 days after completion of the well construction, pump installation or other work required to be reported, or within 7 days after the expiration of the permit or other authorization, whichever is sooner.</p> <p>Verify that work reports are signed and certified as to accuracy and truthfulness of the information on the report by the well construction or pump installation contractors or authorized individuals responsible for the work performed by them or under their direction or supervision, or by the private driller or private pump installer if the work was performed by them.</p> <p>(NOTE: Well construction and pump installation contractors will provide a copy of all work reports to the well owner.)</p> <p>(NOTE: See WQ.100.1.CO. for applicability of 2 CCR 402-2.)</p> <p>Verify that when a flow meter is required, the owner maintains the meter in acceptable operating condition to provide a continuous, accurate record of withdrawals.</p> <p>Verify that as a minimum, flow meters are installed according to the manufacturer's recommendations and contain sufficient recording digits to assure that "roll over" to zero does not occur within three years.</p> <p>Verify that the well is not be pumped if the meter is not operational unless a working meter is installed or unless a specific backup water measurement program approved by the Commission is put into effect.</p> <p>Verify that well owners record the meter reading as required but no less than once each year, retain these records, and submit them to the Colorado Ground Water Commission and the applicable management district upon request.</p>

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UNDERGROUND INJECTION CONTROL WQ.109. All Wells WQ.109.1.CO. Injection well operators must have approval from the Commission prior to the underground disposal of fluids into a Class II well or any well regulated by the Commission (2 CCR 404-1, Rule 325) [Citation Revised May 1998]. WQ.109.2.CO. Injection wells must meet notification standards (2 CCR 404-1, Rules 405 and 319(a)(6)) [Citation Revised March 2004]. WQ.109.3.CO. Injection wells must be tested for mechanical integrity (2 CCR 404-1, Rule 326(a)) [Citation Revised May 1998; Citation Revised March 2004].	<p>(NOTE: Moved from WQ.110.1.CO.; March 2004)</p> <p>Verify that any injection well operator who is or plans to conduct underground disposal of water or any other fluids into a Class II well, or any well regulated by the Commission, has obtained approval from the Commission.</p> <p>(NOTE: Moved from WQ.110.2.CO.; March 2004)</p> <p>Verify that the Commission is notified of the following for all injection projects whether approved by the Commission or not:</p> <ul style="list-style-type: none"> - the Commission is notified of the injection date immediately upon the commencement of injection operations - within 10 days after discontinuous of injection operations, the Commission is notified of the discontinuous date and reasons - Commission notified prior to the plugging of any well. <p>Verify that prior to the plugging of an injection well, the Director has been notified of the estimated time and date of the plugging operation and has approved of the method of plugging.</p> <p>(NOTE: Moved from WQ.110.3.CO.; March 2004)</p> <p>Verify that a mechanical integrity test is performed on all injection wells.</p> <p>Verify that prior to the injection of fluid into a new well, a mechanical integrity test is performed and supporting documents submitted and approved by the Director.</p> <p>(NOTE: A new well is defined as a well which was authorized to inject fluids on or after 12 July 1982.)</p>

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<p>WQ.109.4.CO. Injection wells must meet abandonment criteria (2 CCR 404-1, Rule 319(a)) [Added May 1998].</p>	<p>Verify that the mechanical integrity test includes:</p> <ul style="list-style-type: none"> - one of the following tests that determine whether significant leaks are present in the casing, tubing, or packer: <ul style="list-style-type: none"> - a pressure test with liquid or gas at a pressure of not less than 300 psi or the minimum injection pressure, whichever is greater, and not more than the maximum injection pressure - the monitoring and reporting to the Director, on a monthly basis for 60 consecutive mo of the average casing-tubing annulus pressure, following an initial pressure test - a Director-approved equivalent test(s) - one of the following tests to determine whether there are significant fluid movements in vertical channels adjacent to the well bore: <ul style="list-style-type: none"> - for wells in existence prior to 1 July 1986, cementing records - tracer surveys - cement bond log or other acceptable cement evaluation log - temperature surveys - a Director-approved equivalent test(s). <p>Verify that following the initial mechanical integrity test of a new well, additional mechanical integrity tests are performed at least once every 5 yr. for as long as the well is injecting fluid.</p> <p>(NOTE: Moved from WQ.110.4.CO.; March 2004)</p> <p>Verify that a dry or abandoned well, seismic, core, or other exploratory hole, is plugged in such a manner that oil, gas, water, or other substance is confined to the reservoir in which it originally occurred.</p> <p>Verify that approval of the plugging method has been obtained from the Director prior to plugging and the Director is notified of the following:</p> <ul style="list-style-type: none"> - estimated time and date the plugging operation of any well is to commence - the depth and thickness of all known sources of groundwater. <p>Verify that the following plugging requirements are met:</p> <ul style="list-style-type: none"> - any cement plug is a minimum of 50 ft in length and extend a minimum of 50 ft above each zone to be protected - plugging material is placed in the well in a manner to permanently prevent migration of oil, gas, water, or other substance from the formation or horizon in which it originally occurred - the operator uses a Director approved method of placing cement in the hole - all wellbores have water, mud or other approved fluid between all plugs, unless prior approval is given - no substance of any nature or description other than normally used in plugging operations is placed in any well at any time during plugging operations

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REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.109.5.CO. Injection wells must meet shut-in and temporary abandonment requirements (2 CCR 404-1, Rule 319(b)) [Added May 1998].</p>	<ul style="list-style-type: none"> - all final reports of plugging and abandonments are submitted on a Well Abandonment Report, Form 6, and accompanied by a job log or cement verification report from the plugging contractor. <p>Verify that no surface casing is pulled from any well unless authorized by the Director.</p> <p>Verify that all abandoned wells have a plug or seal placed at the surface of the ground or the bottom of the cellar in the hole in such manner as not to interfere with soil cultivation or other surface use.</p> <p>Verify that the top of the pipe is sealed with one of the following:</p> <ul style="list-style-type: none"> - a cement plug and a screw cap - a cement plug and a steel plate welded in place - other approved method - marked with a permanent monument that consists of a piece of pipe which meets the following requirements: <ul style="list-style-type: none"> - a minimum of 4 in diameter - a minimum of 10 ft in length, with 4 ft above the general ground level - the subsurface length of pipe is embedded in cement or welded to the surface casing. <p>Verify that the following procedures are completed as soon as weather and pit conditions will permit:</p> <ul style="list-style-type: none"> - all pits, mouse and rat holes and cellars are backfilled - debris and surface equipment removed - the location is graded <p>(NOTE: All reclamation work must be completed within 6 mo of plugging a well unless an extension has been granted by the Director.)</p> <p>(NOTE: Moved from WQ.110.5.CO.; March 2004.)</p> <p>Verify that wells that are shut-in or temporarily abandoned upon completion have obtained approval from the Director.</p> <p>Verify that the manner in which the well is to be maintained is reported to the Commission.</p> <p>Verify that a well, that has ceased production or injection or is incapable of production or injection, is abandoned within 6 mo unless the time is extended by the Director.</p> <p>(NOTE: Gas storage wells are to be considered active at all times unless physically plugged.)</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
	<p>Verify that an injection well that is shut-in or temporarily abandoned has a mechanical integrity test performed within two yr after the shut-in date in order to be retained in shut-in or temporarily abandoned status.</p> <p>Verify that a shut-in or temporarily abandoned injection well which is determined not to have mechanical integrity meets one of the following procedures within 6 mo:</p> <ul style="list-style-type: none"> - repaired and pass a mechanical integrity test - plugged and abandoned.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement		
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010	
WQ.110. Class I Wells WQ.110.1.CO. [Moved (NOTE: Moved to WQ.109.5.CO.; March 2004.) March 2004]. WQ.110.2.CO. [Moved (NOTE: Moved to WQ.109.5.CO.; March 2004.) March 2004]. WQ.110.3.CO. [Moved (NOTE: Moved to WQ.109.5.CO.; March 2004.) March 2004]. WQ.110.4.CO. [Moved (NOTE: Moved to WQ.109.5.CO.; March 2004.) March 2004]. WQ.110.5.CO. [Moved (NOTE: Moved to WQ.109.5.CO.; March 2004.) March 2004].		

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement		
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010	
<p>WQ.115.</p> <p>WATER QUALITY STANDARDS</p> <p>WQ.115.1.CO. Basic surface water standards must be met (5 CCR 1002-31, Section 31.11) [Citation Revised May 1998].</p>	<p>(NOTE: Discharges of substances regulated by permits that are within the permit limitations are not required to meet basic surface water standards.)</p> <p>Verify that except where authorized by permits, best management practices or plans of operation approved by the Division state surface waters are free from substances attributable to human-caused point or nonpoint sources that discharge in amounts, concentrations, or combinations which:</p> <ul style="list-style-type: none"> - for all surface waters except for wetlands: <ul style="list-style-type: none"> - can settle to form bottom deposits detrimental to the beneficial use including bottom buildup of anaerobic sludges, mine slurry or tailings, silt, or mud - form floating debris, scum, or other surface materials sufficient to harm existing beneficial uses - produce color, odor, or other conditions to a degree that creates a nuisance or harm to existing beneficial uses or impart any undesirable taste to significant edible aquatic species or to the waters - are harmful to the beneficial uses or are toxic to humans, animals, plants, or aquatic life - produce a predominance of undesirable aquatic life - causes a film on the surface or produces a deposit on shorelines - surface waters in wetlands: <ul style="list-style-type: none"> - produce color, odor, changes in pH, or other conditions to a degree that creates a nuisance or harm water quality dependent functions or import any undesirable taste to significant edible aquatic species of the wetland - are toxic to humans, animals, plants, or aquatic life of the wetland. <p>Verify that radioactive materials in surface waters are maintained at the lowest practical level.</p> <p>Verify that radioactive materials in surface waters are not increased by any cause attributable to municipal, industrial, or agricultural practices or discharges so that they exceed the levels of Appendix 13-13 unless an alternative site-specific standard has been adopted.</p> <p>(NOTE: The state has interim organic pollutant standards applicable to all surface waters for which corresponding use classifications have been adopted, unless alternative site-specific standards have been adopted.)</p>	
<p>WQ.115.2.CO.</p>	Basic	<p>(NOTE: Groundwaters are classified by the state as either:</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>groundwater standards must be met (5 CCR 1002-41, Sections 41.4 and 41.5) [Revised and Citation Revised May 1998; Revised March 2002].</p>	<ul style="list-style-type: none"> - Domestic Use - Quality - Agricultural Use - Quality - Surface Water Quality Protection - Potentially Usable Quality - Limited Use and Quality.) <p>(NOTE: See 5 CCR 1002-42, Section 42.3 for an index of classified areas that have assigned use classifications and water quality standards.)</p> <p>Verify that groundwater is free from other pollutants not listed in Appendix 13-14 through 13-18 that alone or in combination with other substances, are in concentrations shown to be:</p> <ul style="list-style-type: none"> - carcinogenic, mutagenic, teratogenic, or toxic to human beings - a danger to the public health, safety, or welfare. <p>Verify that groundwaters do not exceed the standards in the following tables:</p> <ul style="list-style-type: none"> - Domestic Use - Quality, Appendix 13-15 and 13-16 - Agricultural Use - Quality, Appendix 13-17. <p>Verify that the following groundwater classifications do not exceed the TDS limitations listed in Appendix 13-18:</p> <ul style="list-style-type: none"> - agricultural use - quality - surface water quality protection - potentially usable quality. <p>Verify that radioactive materials in surface waters are maintained at the lowest practical level.</p> <p>Verify that radioactive materials in groundwaters do not exceed the levels of Appendix 13-13 unless an alternative site-specific standard for these substances have been adopted.</p> <p>Verify that organic pollutants do not exceed the levels in Appendix 13-14.</p>
<p>WQ.115.3.CO. Natural swimming areas must not exceed the maximum contaminant level for <i>E. coli</i> (5 CCR 1003-5, Section 4.6(1)) [Added March 1999].</p>	<p>Verify that natural swimming areas meet the maximum contaminant level for <i>E. coli</i> of 235 per 100 mL sample.</p> <p>Verify that natural swimming areas take bacteriological samples at a minimum of once every 7 days and no less than 5 times in a calendar mo during use periods.</p> <p>Verify that at least one time per calendar mo, natural swim areas take bacteriological samples at least 24 hr prior to the beginning of a peak-use period and within 24 hr after the end of the same peak use period.</p> <p>(NOTE: timely responses to water quality problems require that the results of this</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.115.4.CO. Natural swimming areas closed for violating <i>E. coli</i> limits must meet specific standards to re-open (5 CCR 1003-5, Section 4.6(2)) [Added March 1999].</p> <p>WQ.115.5.CO. Natural swimming areas must meet specific sampling requirements (5 CCR 1003-5, Section 4.6(3)) [Added March 1999].</p>	<p>sampling be known within 3 days of the sampling.)</p> <p>Verify that, if several bacteriological samples are taken in one day, those parts of the natural swimming area with results exceeding the maximum contaminant level for <i>E. coli</i> are closed to the public.</p> <p>Verify that a natural swimming area is closed immediately upon receipt of any sampling result that indicates that the <i>E. coli</i> density exceeds 235 organisms per 100 ml.</p> <p>(NOTE: Natural swimming areas that have entered into a voluntary Memorandum of Agreement with the Department of Public Health and Environment will comply with the closure requirements of the Agreement.)</p> <p>Verify that the first sample of the swimming season is taken at least 5 days prior to opening the area.</p> <p>Verify that failure to meet any of these requirements:</p> <ul style="list-style-type: none"> - is reported to the Department or it's designated agent by telephone call or FAX, as soon as possible but no later than 24 hr after determination - results in the immediate closure of the natural swimming area, with signs posted to inform the public of closure at the accesses to the area. <p>Verify that the natural swimming area does not re-open until the sample result shows that the level of <i>E. coli</i> is less than 235 per 100 ml sample.</p> <p>Verify that the samples are taken at the same location as the original samples.</p> <p>Verify that if more than one sample is taken on any day, the highest result is used for compliance purposes.</p> <p>Verify that samples are taken:</p> <ul style="list-style-type: none"> - in the area of the greatest bather load or activity - during regular business hours - where the water depth is approximately 3 ft - from within approximately 12 in. of the surface - by an individual trained in proper sampling techniques. <p>Verify that all samples taken are examined in accordance with the 19th Edition of Standard Methods for the Examination of Water and Wastewater (1995), Parts 9221, A, C, E; 9222 A, D, E; 9211 B; 9212 B; 9213 D; 9221 F; 9223 A, B; and 9020 or by other method accepted by the Colorado Dept. of Public and Environment.</p>

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.115.6.CO. Natural swimming areas must have approved management plans (5 CCR 1003-5, Section 4.6(4)) [Added March 1999].</p>	<p>Verify that records of all sampling results are maintained at the facility for a period of 3 yr.</p> <p>Verify that all bacteriological sampling results taken in any mo are submitted to the Department or its designated agent by the 15th of the following mo.</p> <p>Verify that each natural swimming area has an approved management plan at each facility.</p> <p>Verify that the plan is based on, but not limited to, the following criteria:</p> <ul style="list-style-type: none"> - person(s) responsible for and procedures for notification of the state or local health dept. and the public through the news media, as appropriate, when the water quality is out of compliance - number and location of additional bacteriological samples due to size of area - public information on water quality and associated risks, proper hygiene, steps the swimmers can take to reduce their risk, and the steps swimmers should take to report any illness they believe that they had contracted from the swimming area - minimum number and location of toilet facilities - control of diaper wearing individuals and changing stations - control of pets - voluntary closure when water quality may exceed the standards - maximum bather loads - lifeguards and other personnel - personnel qualifications and training - control of inlet water or other practices to affect water quality - use of sanitary surveys for closing portions of the area due to presence of bacteria - maintenance of reports of health complaints - maintenance of analytical costs.

COMPLIANCE CATEGORY: WATER QUALITY MANAGEMENT Colorado Supplement	
REGULATORY REQUIREMENTS:	REVIEWER CHECKS: March 2010
<p>WQ.120.</p> <p>WATER USE PERMITS</p> <p>WQ.120.1.CO. Any extractor of artificially recharged water must meet specific requirements (2 CCR 402-11, Rule 6(1)) [Added May 1998; Citation Revised March 2010].</p> <p>WQ.120.2.CO. The use of ground water requires a permit and meet applicable requirements (2 CCR 410-1, Rule 5.1. 5.9, and 8.2) [Added March 2005].</p>	<p>Verify that a permit is obtained from the State Engineer for the extraction of artificially charged water.</p> <p>Verify that the extraction of artificially charged waters is accomplished through one of the following:</p> <ul style="list-style-type: none"> - an existing well previously permitted for extraction of artificially charged waters - a new well. <p>(NOTE: If the proposed extraction is to be accomplished through a new well, the owner of the recharged water must obtain a permit to extract through the construction of a new well.)</p> <p>Verify that the following uses of ground water have a permit: use for irrigation, municipal, commercial, industrial, mining, fishery, recreational and all other beneficial uses as occur through the use of a well.</p> <p>(NOTE: The use of ground water may also include the incidental use through evaporation from mining excavations or recreational ponds.)</p> <p>Verify that all wells are completed in accordance with the Rules and Regulations of the Board of Examiners of Water Well Construction and Pump Installation Contractors for the State of Colorado (2 CCR 402-2) (see WQ.100.1.CO. through WQ.100.12.CO.).</p> <p>Verify that, when a meter is required, the owner keeps the meter in acceptable operating condition to provide a continuous, accurate record of withdrawals.</p> <p>Verify that a well is not pumped unless a working meter is installed or unless a specific backup water measurement program approved by the Commission is put into effect.</p> <p>Verify that owners record the meter reading as required but no less than once each year and to retain these records and submit them to the Colorado Ground Water Commission and the applicable management district upon request.</p>

Appendix 13-1

Tap Water Monitoring Standards

[Deleted March 2007]

(NOTE: 5 CCR 1003-1, Article 8.7, Monitoring Requirements for Lead and Copper in Tap Water is equivalent to 40 CFR 141.86.)

Appendix 13-2

Water Quality Parameter Monitoring Standards

[Deleted March 2007]

(NOTE: 5 CCR 1003-1, Article 8.3, Description of Corrosion Control Treatment Requirements, is equivalent to 40 CFR 141.83.)

Appendix 13-3

Contaminants That Require Specific Language in Public Notices

(Source: 5 CCR 1003-1, Section 10.1.4(1)) [Deleted April 2003].

Appendix 13-4

MCLs for Inorganic Chemicals

[Deleted March 2007]

(NOTE: 5 CCR 1003-1 Article 2.2, Table 2-3, MCLs for Inorganic Chemical Contaminants, is equivalent to 40 CFR 141.62.)

Appendix 13-5

MCLs for Volatile Organic Chemicals

[Deleted March 2007]

(NOTE: 5 CCR 1003-1 Article 2.1, Table 2-1, MCLs and MCLGs for Organic Chemical Contaminants, is equivalent to 40 CFR 141.61.)

Appendix 13-6

MCLs for Synthetic Organic Chemicals

[Deleted March 2007]

(NOTE: 5 CCR 1003-1 Article 2.1, Table 2-2, MCLs for Synthetic Organic Chemical Contaminants, is equivalent to 40 CFR 141.61.)

Appendix 13-7

Average Annual Concentration Assumed to Produce a Total Body or Organ Dose of 4 mrem/yr [Deleted March 2007]

(NOTE: 5 CCR 1003-1, Article 6.3.3, Monitoring and Compliance Requirements for Beta Particle and Photon Radioactivity, is equivalent to 40 CFR 141.26.)

Appendix 13-8

Detection Limits for Manmade Beta Particle and Photon Emitters

[Deleted March 2007]

(NOTE: 5 CCR 1003 Article 10.4.1 Table 10-11, Sampling and Analytical Requirements for Radionuclides is equivalent to 40 CFR 141.25, Table C.)

Appendix 13-9

Sampling Frequency for Total Coliforms

[Deleted March 2007]

(NOTE: 5 CCR 1003-5.1.1 , Total Coliform Monitoring Frequency, is equivalent to 40 CFR 141.21(a))

Appendix 13-10

Unregulated VOCs [Deleted March 2007]

(NOTE: 5 CCR 1003-1, Article 1.6.4, Reporting Requirements, is equivalent to 40 CFR 141.31.)

Appendix 13-11

Unregulated Inorganic and Organic Chemicals

[Deleted March 2007]

(NOTE: 5 CCR 1003-1, Article 1.6.4, Reporting Requirements, is equivalent to 40 CFR 141.31.)

Appendix 13-12

Minimum License and Permit Requirements for Wells

(Source: 2 CCR 402-2 Section 6.3, Table 1) [Revised March 2007]

Type of Well	Depth of Well			
	Does Not Penetrate Through a Confining Layer		Penetrates Through a Confining Layer	
Water Wells	License*	Permit	License	Permit
Monitoring and Observation Wells**	No License	Permit	Special License*	Permit
Recovery Wells**	No License	Permit	Special License*	Permit
Monitoring and Observation Holes**	No License	Notice	Special License	Notice
Dewatering Wells**	No License	Notice	Special License	Notice
Test Holes***	No License	No Notice	Special License	Notice

- * This table shows minimum requirements. A licensed contractor is authorized to construct, etc., all of the types wells or holes indicated. Holders of special licenses and authorized individuals are restricted to the type of work for which they are licensed or qualified.
- ** Monitoring and observation wells and holes must not be converted into producing water wells unless originally constructed by a well construction contractor. Monitoring and observation holes must be abandoned within 1 yr.
- *** Test hole requirements also apply to cathodic protection, grouting, percolation, pier and piezometer holes, horizontal drains, and sump pumps. Test holes must not remain open for more than 90 days.

Appendix 13-13

Surface Water and Groundwater Basic Standards for Radioactive Materials

(Source: 5 CCR 1002-31, Section 31.11(2) and 1002-41, Section 41.5)

[Revised May 1998]

Radionuclide	Limit (pCi/L)
Americium 241	0.15
Cesium 134	80
Plutonium 239 and 240	0.15
Radium 226 and 228	5
Strontium 90	8
Thorium 230 and 232	60
Tritium	20,000

Appendix 13-14

Groundwater Organic Chemical Standards

(Source: 5 CCR 1002-41, Section 41.5, Table A) [Revised May 1998; Revised April 2003]

(NOTE: These interim standards will remain in effect until alternative permanent standards are adopted or site-specific standards determinations.)

Parameter	CAS No.	Standards ¹ (mg/L)
Acenaphthene	83-32-9	420
Acrolein	107-02-8	110
Acrylonitrile {C}	107-13-1	0.065
Alachlor	15972-60-8	2.0 {M}
Aldicarb	116-06-3	3.0 {M}
Aldicarb Sulfone	1646-88-4	7.0 {M}
Aldicarb Sulfoxide	1646-87-3	7.0{M}
Aldrin [C]	309-00-2	0.0021
Anthracene (PAH)	120-12-7	2.100
Atrazine	1912-24-9	3.0{M}
Benzene [C]	71-43-2	5.0
Benzidine [C]	92-87-5	0.00015
Benzo (a) anthracene (PAH) {C}	56-55-3	0.0048
Benzo(a)pyrene	50-32-8	0.0048
Benzo(b) fluoranthene (PAH) {C}	205-99-2	0.0048
Benzo(b) fluoranthene (PAH) {C}	207-08-9	0.0048
Bromodichloromethane (THM)	75-27-4	0.56
Bromoform (THM) [C]	75-25-2	4
Butyl benzyl phthalate	85-68-7	1,400
Carbofuran {C}	1563-66-2	40 {M}
Carbon tetrachloride [C]	56-23-5	0.27
Chlordane [C]	57-74-9	0.10
Chlorethyl ether (bis-2) [C]	111-44-4	0.032
Chlorobenzene	108-90-7	100
Chloroform (THM) {C}	67-66-3	6
Chloroisopropyl ether (BIS-2)	39638-32-9	280
4-Chloro-3-methylphenol	59-50-7	210
Chloronaphthalene {2}	91-58-7	560
Chlorophenol	95-57-8	35
Chlorphrifos	2921-88-2	21
Chrysene (PAH){C}	218-01-9	0.0048
DDE [C]	72-55-9	0.1
DDT [C]	50-29-3	0.1
Dalapon	75-99-0	200 {M}
Dibenzo(a,h)anthracene (PAH){C}	53-70-3	0.0048
1,2-Dibromo-3-Chloropropane (DBCP)	96-12-8	0.2 {M}
Dibromochloromethane (THM)	124-48-1	.42
Dichlorobenzene 1.2	95-50-1	600 {M}
Dichlorobenzene 1.3	541-73-1	600
Dichlorobenzene 1.4	106-46-7	75 {M}
Diclorobenzidine{C}	91-94-1	0.078
Dichloroethane 1,2 [C]	107-06-2	0.38
Dichloroethylene 1,1	75-35-4	7 {M}
Dichloroethylene 1.2-cis	156-59-2	70 {M}

Parameter	CAS No.	Standards ¹ (mg/L)
Dichloroethylene 1,2-trans	156-60-5	100 {M}
Dichlorophenol 2,4	120-83-2	21
Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70 {M}
Dichloropropane 1,2 [C]	78-87-5	0.52
Dieldrin [C]	60-57-1	0.002
Diethyl phthalate	84-66-2	5.600
Disopropylmethylphosphonate	1445-75-6	8
Dimethylphenol 2,4	105-67-9	140
Di-n-butyl phthalate	84-74-2	700
Dinitro-o-cresol 4,6	534-52-1	2.7
Dinitrophenol 2,4	51-28-5	14
Dinitrotoluene 2,4 {C}	121-14-2	0.11
Dinoseb	88-85-7	7 {M}
Dioxin (2,3,7,8 TCDD) [C]	1746-01-6	2.2x10 ⁽⁷⁾
Diphenylhydrazine 1.,2 [C]	122-66-7	0.044
Diquat	85-00-7	20 {M}
Di(2-ethylhexyl)adipate	103-23-1	400 {M}
Endosulfan	115-29-7	0.35
Endosulfan, alpha	95-99-88	42
Endosulfan, beta	3321-36-59	42
Endosulfan sulfate	1031-07-8	42
Endothall	145-73-3	100 {M}
Endrin	72-20-8	2 {M}
Endrin aldehyde	7421-93-4	2.1
Ethylbenzene	100-41-4	700 {M}
Ethylene Dibromide	106-93-4	0.05 {M.1}
Ethylhexyl phthalate (BIS-2) {C}	117-81-7	2.5
Fluoranthene (PAH)	206-44-0	280
Fluorene (PAH)	86-73-7	280
Glyphosate	1071-83-6	700 {M}
Heptachlor [C]	76-44-8	0.008
Heptachlor epoxide [C]	1024-57-3	0.004
Hexachlorobenzene [C]	118-74-1	1.0 {M}
Hexachlorobutadiene	87-68-3	14
Hexachlorocyclohexane, Alpha [C]	319-84-6	0.0056
Hexachlorocyclohexane, Gamma (Lindane)	58-89-9	0.2 {M}
Hexachlorocyclopentadiene	77-47-4	50 {M}
Hexachloroethane	67-72-1	7.0
Indeno (1.2.3-cd) pyrene (PAH) {C}	193-39-5	0.0048
Isophorone	78-59-1	40
Malathion	121-75-4	140
Methoxychlor	72-43-5	40 {M}
Methylene chloride {C}	75-09-2	4.7
Naphthalene (PAH)	91-20-3	28
Nitrobenzene	98-95-3	3.5
Nitrophenol 4	100-02-7	56
Nitrosodimethylamine N {C}	62-75-9	0.00069
Nitrosodiphenylamine N {C}	86-30-6	7.1
N-Nitrosodi-n-propylamine {C}	621-64-7	0.005
Oxamyl (vydate)	23135-22-0	200 {M}
PCBs {C3}	1336-36-3	0.0175
Pentachlorobenzene	608-93-5	5.6
Pentachlorophenol [C]	87-86-5	1.0 {1.M}

Parameter	CAS No.	Standards¹ (mg/L)
Phenol	108-95-2	4.200
Picloram	1918-02-1	500 {M}
Simazine	122-34-9	4 {M}
Styrene	100-42-5	100 {M}
Tetrachlorobenzene 1,2,4-5	95-94-3	2.1
Tetrachloroethane 1,1,2,2 {C}	79-34-5	0.18
Tetrachloroethylene	127-18-4	5 {M}
Toluene	108-88-3	1.000 {M}
Toxaphene [C]	8001-35-2	0.032
Trichlorobenzene 1,2,4	120-82-1	70 {M}
Trichloroethane 1,1,1	71-55-6	200 {M}
Trichloroethane 1,1,2	79-00-5	3 {1}
Trichloroethylene [C]	79-01-6	5 {M}
Trichlorophenol 2,4,6 [C]	88-06-2	3.2
Trichlorophenoxypropionic acid,(2,4,5-tp)	93-72-1	50 {M}
Vinyl Chloride [C]	75-01-4	2 {M}
Xylenes (total)	1330-20-7	10,000 {M}

{1} All standards are chronic or 30-day standards. They are based on information contained in EPA's Integrated Risk Information System (IRIS) and/or EPA lifetime health advisories for drinking water using a 10⁻⁵ incremental risk factor unless otherwise noted.

{2} PQL's for the constituents listed above can be found in Regulation No 61, section 2(12).

{3} PCBs are a class of chemicals which include aroclors, 1242, 1254, 1221, 1232, 1248, 1260 and 1016, CAS numbers 53469219, 11097691, 11104282, 11141165, 12672296, 11096825, and 12674112 respectively. The human-health criteria apply to total PCBs, i.e. the sum of all congener or all isomer analyses.

{C} Carcinogens classified by the EPA as A, B1, or B2.

{M} Drinking water MCL.

CAS No - Chemical Abstracts Service Registry Number

(THM) - Halomethanes

Appendix 13-15

Human Health Standards for Domestic Use--Quality Groundwaters

(Source: 5 CCR 1002-41, Section 41.8, Table 1) [Revised May 1998; Revised March 2002; Revised March 2007]

Parameters	Standards(1)
Biological	
Total Coliforms	< 1 org/100 mL (2)
Inorganic	
Antimony (Sb)* (5, 9)	0.006 mg/L
Asbestos(9)	7,000.000 fibers/L
Arsenic (As)* (5, 9)	0.05 mg/L
Barium (Ba)* (5, 9)	2.0 mg/L
Beryllium (Be)* (5, 9)	0.004 mg/L
Cadmium (Cd)* (5, 9)	0.005 mg/L
Chromium (Cr)*(4,5, 9)	0.1 mg/L
Cyanide [Free] (CN) (9)	0.20 mg/L
Fluoride (F)* (5, 9)	4.0 mg/L
Lead (Pb)* (5)	0.05 mg/L
Mercury (Hg)* (5, 9)	0.002 mg/L
Nickel (Ni)* (5)	0.1 mg/L
Nitrate (NO ₃)* (5, 9)	10.0 mg/L as N
Nitrite (NO ₂)* (5, 9)	1.0 mg/L as N
Total Nitrate and Nitrite(5,7)	10.0 mg/L as N
Selenium (Se)* (5, 9)	0.05 mg/L
Silver (Ag)* (5)	0.05 mg/L
Thallium (Tl)* (5, 9)	0.002 mg/L
Radiological (3):	
Alpha Emitters - Gross Alpha Particle Activity (excluding Radon and Uranium) (8)	15 pCi/L
Beta and Photon Emitters ⁽⁶⁾	4 mrem/yr

- (1) Chronic or 30-day standard based on information contained in EPA's Integrated Risk Information System (IRIS) using a 10^{-6} incremental risk factor.
- (2) < Means less than. When the Membrane Filter Technique is used for analysis, the average of all samples taken within a year must be less than 1 organism per 100 milliliters of sample. When the Multiple Tube Fermentation Method is used for analysis, the limit is less than 2.2 org/100 ml.
- (3) If the identity and concentration of each radionuclide in a mixture are known, the limiting value would be derived as follows: Determine, for each radionuclide in the mixture, the ratio between the quantity present in the mixture and the limit specified. The sum of such ratios for all radionuclides in the mixture shall not exceed "1" (i.e. unity). A radionuclide may be considered as not present in a mixture if the ratio of the concentration to the limit does not exceed 1/10 and the sum of such ratios for all radionuclides considered as not present in the mixture does not exceed 1/4.
- (4) The chromium standard is based on the total concentration of both trivalent and hexavalent forms of dissolved chromium.
- (5) Measured as dissolved concentration. The sample water shall be filtered through a 0.45 micron membrane filter prior to preservation. The total concentration (not filtered) may be required on a case-by-case basis if deemed necessary to characterize the pollution caused by the activity.
- (6) If two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ shall not exceed 4 mrem per year. Except for Tritium and Strontium 90 the concentration of man-made radionuclides causing 4 mrem total body or organ dose equivalents shall be calculated on the basis of a 2 liter

per day drinking water intake using the 168-hour data listed in "Maximum Permissible Body Burden and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure," NBS Handbook 69, as amended, August 1963, US Department of Commerce.

- (7) These more stringent levels are necessary to protect livestock watering. Levels for parameters without this footnote are set to protect irrigated crops at the same level. Where a party can demonstrate that a livestock watering use of ground water is not reasonably expected, the applicable standard for lead is 5.0 mg/l.
- (8). The Gross Alpha Activity standard excludes alpha activity due to Radon and Uranium.
- (9) Drinking water MCL.

Appendix 13-16

Secondary Drinking Water Standards for Domestic Use--Quality Groundwaters

(Source: 5 CCR 1002-41, Section 41.8 Table 2) [Revised March 2002; Revised April 2003; Revised March 2007].

Contaminants	Standard
Chlorophenol	0.0002 mg/L
Chloride* (Cl)	250 mg/L
Color	15 color units
Copper* (Cu)	1 mg/L
Corrosivity	Noncorrosive
Foaming Agents	0.5 mg/L
Iron* (Fe)	0.3 mg/L
Manganese* (Mn)	0.05 mg/L
Odor	3 threshold odor numbers
pH	6.5 - 8.5
Phenol	0.300 mg/L
Sulfate* (SO ₄)	250 mg/L
Zinc* (Zn)	5 mg/L

* Measured as dissolved concentration. The sample water shall be filtered through a 0.45 micrometer membrane filter prior to preservation. The total concentration (not filtered) may be required on a case-by-case basis if deemed necessary to characterize the pollution caused by the activity.

Appendix 13-17

Agricultural Water Standards for Groundwaters

(Source: 5 CCR 1002-41, Section 41.8, Table 3) [Revised March 2002; Revised April 2003; Revised March 2007]

Contaminants*	Standard (mg/L)
Aluminum ¹ (Al) {1,2}	5.0
Arsenic (As) {1}	0.1
Beryllium (Be) {1}	0.1
Boron ² (B) {1,3}	0.75
Cadmium (Cd) {1}	0.01
Chromium (Cr) {1}	0.1
Cobalt (Co) {1}	0.05
Copper (Cu) {1}	0.2
Fluoride (F) {1}	2.0
Iron (Fe) {1}	5.0
Lead (Pb) {1,2}	0.1
Lithium (Li) {1.4}	2.5
Manganese (Mn) {1}	0.2
Mercury (Hg) {1,2}	0.01
Nickel (Ni) {1}	0.20
Nitrite ¹ (NO ₂ - N) {1,2}	10 as N
Nitrite and Nitrate ¹ (NO ₂ + NO ₃ - N) {1,2}	100 as N
Selenium (Se) {1}	0.02
Vanadium (V) {1}	0.1
Zinc (Zn) {1}	2.0
pH	6.5 - 8.5 units

1. Measured as dissolved concentration. The sample water shall be filtered through a 0.45 micron membrane filter prior to preservation. The total concentration (not filtered) may be required on a case-by-case basis if deemed necessary to characterize the pollution caused by the activity.

2. These more stringent levels are necessary to protect livestock watering. Levels for parameters without this footnote are set to protect irrigated crops at the same level. Where a party can demonstrate that a livestock watering use of ground water is not reasonably expected, the applicable standard for lead is 5.0 mg/l.

3. This level is set to protect the following plants in ascending order of sensitivity. Pecan Black Walnut. Persian (English) Walnut, Jerusalem Artichoke, Navy Bean, American Elm, Plum, Pear, Apple, Grape (Sultanina and Malaga); Kadota Fig, Persimmon, Cherry, Peach, Apricot, Thornless Blackberry, Orange, Avocado, Grapefruit, Lemon Where a party can demonstrate that a crop watering use of ground water is not reasonably expected, the applicable standard for boron is 5.0 mg/l.

4 This level protects all crops, except citrus which do not grow in Colorado and therefore a more stringent level of protection is not required.

Appendix 13-18

Total Dissolved Solids (TDS) Limitations for Groundwaters

(Source: 5 CCR 1002-41, Section 41.8, Table 4) [Revised March 2002; Citation Revised March 2007].

Background TDS Value (mg/L)	Maximum Allowable TDS Concentrations
0 - 500	400 mg/L or 1.25 times the background levels, whichever is least restrictive
501 - 10,000	1.25 times the background level
10,001 or greater	No limit

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14. ABSTRACT Environmental assessments help determine compliance with current environmental regulations. The U.S. Air Force, U.S. Army, Defense Logistics Agency (DLA), and Corps of Engineers (Civil Works) have adopted environmental compliance programs that identify compliance problems before they are cited as violations by the U.S. Environmental Protection Agency. Since 1984, the U.S. Army Construction Engineering Research Laboratory, in cooperation with numerous Department of Defense (DOD) components, has developed environmental compliance assessment checklist manuals. The Environmental Assessment and Management (TEAM) Guide was developed for use by all DOD components. Currently there are five participating DOD components: the Air Force, Air National Guard, Army, Civil Works, and DLA. These agencies have agreed to share the development and maintenance of this Guide. The Guide combines Code of Federal Regulations and management practices into a series of checklists that show legal requirements and the specific operations or items to review. TEAM Guide is supplemented by DOD component-specific manuals detailing DOD component regulations and policies. The Colorado Supplement was developed to be used in conjunction with the TEAM Guide, using existing Colorado state environmental legislation and regulations as well as suggested management practices.					
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